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ABSTRACT

This guidebook identifies marketable skills employers look for in job candidates and lists 22 majors and specific vocations related to each major. There is also a section on jobs that require a general education, which applies to students in any major. Following each brief description of a major or educational program, there is a list of marketable skills the student may gain through that program of study. The section on marketable skills describes selling points for employers based on skills that the student acquires by majoring in a specific field or earning a degree in Liberal Arts. Also provided are charts of traditional and nontraditional jobs that show the student what education and experience is needed to get a particular job as well as who is doing the hiring. Lists of other sources (articles, books, directories, and guides), with capsule descriptions, appear after each major and in the 31-item bibliography at the guidebook's conclusion. Directories and other helpful sources are also listed, including information for special groups, such as the disabled, and minorities. (GLR)

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COLLEGE
Knowledge
& JOBS

College, Knowledge, & Jobs

New York State Department of Labor
Occupational Analysis Section

1991

State of New York
Mario M. Cuomo, Governor

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CONTENTS

Page

ACKNOWLEDGMENTS iii

RESEARCHING YOUR FUTURE 1

CONDUCTING YOUR CAMPAIGN--SIX WAYS TO ENHANCE YOUR CHANCES 4

CHANGING DIRECTION 5

IF YOU ARE UNDECIDED ABOUT YOUR MAJOR 5

MAJORS

ANTHROPOLOGY 9
ARTS, PERFORMING 22
ARTS, VISUAL 37
BIOLOGY 56
BUSINESS AND PUBLIC ADMINISTRATION 72
CHEMISTRY 85
COMMUNICATIONS (Journalism, Mass Media, Public Relations) 98
ECONOMICS 120
EDUCATION 132
ENGLISH 145
GEOGRAPHY 157
GEOLOGY 166
HISTORY 178
HOME ECONOMICS 189
LANGUAGES 205
MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE 214
PHILOSOPHY 228
PHYSICAL EDUCATION AND RECREATION 238
PHYSICS 249
POLITICAL SCIENCE 263
PSYCHOLOGY 273
SOCIOLOGY 282

ANY MAJOR 292

BIBLIOGRAPHY 304

INDEX 311

INDEX

Pages

A

accounting 72, 120, 124
acting 22, 98
actuarial science 120, 214
administration 72
administration, health and hospital 72, 189
administration, hotel and restaurant 72, 189
advertising 37, 98
agribusiness 72
agricultural economics 120, 157
agriculture 56, 157, 189
agronomy 56
anatomy 56
anthropology 9
any major 292
aquatic biology 56
archeology 97, 178
architecture 41
area studies 205, 292
art education 37
art history 37
arts, performing 22
arts, visual 37
astronomy 249
athletics 238

B

bacteriology 56
biochemistry 56, 85
biological anthropology 9
biology 56
botany 56
broadcasting 98
business administration 72
business economics 70

C

cartography 43, 157
cell biology 56
chemical engineering 85
chemistry 85
cinema 98
clinical chemistry 85
commercial art 37
communications 98

Pages

computer science 214
consumer affairs 263
consumer economics 189
counseling 132, 273, 282
crafts 37, 189
cultural anthropology 9

D

dance 22, 238
design 37, 189
dietetics 189
drama 22, 98

E

early childhood education 132, 189, 273
economics 72, 120
education 132
education, art 37
education, early childhood 132
education, home economics 189
education, physical 238
electronics 249
engineering 214, 249
engineering, chemical 85
engineering, geological 166
engineering, industrial 214
English 145
enology 189
entomology 56
environmental biology 56
environmental chemistry 85
environmental protection 56, 85, 157, 166, 263

F

fashion design 37, 189
family economics 189
fiber technology 56
film making 98
finance 72
fine art 37
food 56, 85, 189
foreign language 205
foreign policy 263
forestry 56

Pages

G

gemology 166
genetics 56
geodesy 166, 214, 249
geography 157
geography, physical 166
geology 166
geophysics 166
government 263
graphic design 37

H

health and hospital administration 72, 120, 189
health sciences 56
historical archeology 178
history 178
home economics 189
horticulture 56
hotel and restaurant administration 72, 189
human ecology 189
human geography 157
human physiology 56
hydrology 56, 85, 157

I

industrial hygiene 56, 85
industrial design 37
industrial relations 72, 98
information science 214
instrumental music 22
interdisciplinary studies 205, 294
interior design 37, 189
international studies 205
interpersonal communication 98

J

journalism 98

L

labor relations 98, 263
language, English 145
languages 205
liberal arts 292
life science 56

Pages

linguistic anthropology 9
linguistics 145
literature, comparative 145, 205
literature, English 145
logic 228

M

management 72
marketing 72
mass media 98
mathematics 214
media 98
medical technology 56, 85
metallurgy 85
meteorology 85, 157, 166, 214, 249
microbiology 56
microeconomics 120
mineralogy 85, 166
music 22

N

navigation 214
nutrition 189

O

operations research 214
optometry 249
orchestra 22
organic chemistry 85

P

painting 37
paleontology 56, 166
performing arts 22
personnel management 72
pharmaceutical chemistry 85
pharmacology 56, 85
pharmacy 56, 85
philosophy 228
photogrammetry 157, 166, 249
photography 37, 98, 189
photojournalism 98
photo optics 249

	Pages
physical education	238
physical geography	157
physics	249
physiology	56
political science	263
printmaking	37
production management	72
psychology	273
public administration	72
public relations	98
purchasing	72
R	
radiation biology	56
radiography	249
recreation	238
recreational therapy	22, 37, 238
resource management	157
S	
sculpture	37
seismology	157, 166,214, 249
sewing	189
singing	22
social work	189, 273, 284
sociobiology	56
sociology	284
soil science	56, 85, 157
spectroscopy	166, 249
speech	145
sports	238
statistics	214
studio art	37
surveying	157, 214
T	
textile design	189
theater	22
therapy, corrective	238
therapy, dance	22, 238
therapy, music	22
therapy, recreational	22, 37, 238

Pages

V

veterinary medicine 56
videotaping 98
visual arts 37

W

writing 98, 145

Z

zoology 56

RESEARCHING YOUR FUTURE

One of the most rewarding projects you can undertake, one that will challenge all your research skills, is finding a career direction that really fits your interests and abilities. It would be simple if your major led definitely to one work field, but your options are broader, since many skills are transferable from one field to another.

This guidebook emphasizes the transferable skills employers look for in job candidates. After each brief description of a major or educational program, there is a list of marketable skills you may gain through that program of study. The guidebook goes one step further and applies these skills--or combinations of them--to potential jobs, supplying this information in chart form. Some of the jobs suggested have additional requirements beyond college graduation. When this is the case, the extra requirements are noted in the column, "What You Need." After each section of the book, there is a listing of sources which may supply more information.

Not all majors are covered. There are many specialized majors and interdisciplinary studies. Following the discussion and charts for specific majors, there is a general section for "Any Major." This section lists skills of college graduates and some of the jobs requiring a diploma--no major specified.

The guidebook is designed to assist you and other students in seven ways:

- Call attention to marketable skills you can acquire (or may already have)
- Suggest some specific job possibilities--and their requirements
- Refer you to sources for further information on entry jobs related to your major
- Help you select part-time or summer jobs to enhance your prospects with practical experience
- Suggest directions for further specialization if you decide on graduate school
- Equip you with selling points to use when you see employers
- Enable you to choose from a wide field of career options, both traditional and nontraditional

"MARKETABLE SKILLS"

Marketable skills are selling points. They suggest practical applications of your education and ways you might present your qualifications to an employer. Since jobs do include on-the-job training, you can polish your skills and acquire new ones after you are hired. The skills you acquire as a student depend a lot upon the school you attend; the particular emphasis of your coursework; the minor and electives you select; and the experience you gained through hobbies, campus activities, or part-time jobs. Graduates with the same major do not have identical qualifications. Colleges make no guarantees. It is up to you to make sure you acquire marketable skills and up to you to convince employers that you have skills they need and can learn other skills on the job. As college counselors frequently tell students, "Employers hire people, not majors."

"POTENTIAL JOBS"

Following the list of "Marketable Skills" for your major, are charts showing "Potential Jobs," "What You Need" to get the jobs, and "Where the Jobs Are."

Finding a first job takes preparation, more preparation than was needed in the past, as jobs become increasingly complex. By knowing what the alternatives are, you can consider more possibilities and have greater freedom of choice.

The jobs listed are starter jobs, ones that get you started on your career. Because a major is not a blueprint for life, the lists are incomplete. At any college, there are stories of graduates who found unusual opportunities, unexpected first jobs not directly related to their majors.

The jobs--traditional and non-traditional--listed in each section are suggestions, meant to stimulate your own brainstorming and remind you of options you might overlook. Your own list of jobs to consider will go on beyond these pages. Check the jobs you would like to know more about. Add your own ideas. Draw a line through any jobs not compatible with you, your interests, values, lifestyle--what you want out of life. If none of the jobs sound interesting, you may need to consider other courses of study.

There are other uses for the list of potential jobs. It can suggest lines of work in which you might find summer or part-time, pregraduation jobs related to your studies. "Nontraditional" jobs (usually not requiring college graduation--craft, clerical, sales, farm, paraprofessional) may also serve as points of entry into a field of work, when competition is particularly keen or when there are more graduates than jobs.

"DOT CODES"

To the right of the "Potential Jobs" column on each chart is a column titled, "DOT Codes." The codes are references to the *Dictionary of Occupational Titles* (Fourth Edition, 1977, and the Fourth Edition Supplement, 1986, published by the United States Department of Labor). Definitions can be found in this Dictionary--numerically arranged by code--for all the "Potential Jobs" printed in capital letters. This publication is available in most libraries and in all State Job Service offices.

"WHAT YOU NEED"

Many jobs have requirements beyond the bachelor's degree: certain experiences, courses, or licenses that are either necessary or likely to enhance your possibilities for being hired or promoted. These additional credentials are listed in the column, "What You Need." You can better your chances of getting the job you want--make it happen through your choice of electives, minor, school activities, and part-time jobs. Knowing requirements of jobs can help you create your own future.

"WHERE THE JOBS ARE"

"Who's hiring?" is answered in the column, "Where the Jobs Are." For more detailed information about who needs you, check directories in your library, professional journals, want ads, and the yellow pages of your phone book. Free suggestions on how to present your credentials, including new types of resumes, are available at your college career center. The center may also arrange interviews with representatives of large companies and give you job leads, but the initiative to look for a job needs to be your own. If you wait for someone else to locate opportunities, you will limit your choices. It's a good idea to start looking about a year before graduation and to gather information and assess what you have to offer before that. If you find out ahead of time that you lack some necessary qualification for work that interests you, you may be able to fulfill the requirements before graduation.

"MORE INFORMATION"

After each major, under the heading *More Information,* there is a listing of books and other materials, as well as organizations to contact. At the end of the book, the section titled *Books, Directories, and Information for Special Groups* supplies information with a more general orientation that is applicable to the needs of many majors, and data for people with disabilities and minorities. Libraries and career centers have most of the publications mentioned here, as well as others that can be helpful.

Besides reading about work that interests you, it is important to discuss career opportunities with professors and career counselors, meet potential employers, talk to people already employed in the field, and visit places of work to obtain current career information. In short, make use of your research skills to explore your alternatives. By knowing what the possibilities are, you can make a choice, not just take whatever comes your way.

If you have an opportunity to try out work through an internship or as a part-time or volunteer worker, you will know more about both the work and yourself--your strengths and preferences--and be better equipped to make a choice.

Having made a choice, the next step is an all-out campaign to find a first job that will give you a start on the type of work you want.

CONDUCTING YOUR CAMPAIGN
SIX WAYS TO ENHANCE YOUR CHANCES

- Collect skills. Don't pass up opportunities to learn how to make photographs or videotapes, interview people, speak in public, sell products, lobby, or raise funds, use a computer, speak a new language, or run a business. Extra skills can increase your chances for finding an interesting job.

- Look for opportunities to get part-time or summer work experiences related to your studies. Ask your career counselor to help. Volunteer if need be. If you can't find work that supplements your major, look for work that involves meeting many people.

- Supplement your major with a minor that is expected to be in demand, such as statistics or computer science.

- Talk to people--as many as possible--working in fields related to your major.

- Start looking early and seek all the help you can get. Profit from the experiences of others. Look into all options, including nontraditional jobs. Learn how to develop a campaign and write a resume.

- Conduct your own job campaign and make your own decisions.

CHANGING DIRECTION

Selecting a starter job gets you on your way but does not settle your future. It is merely one of many career decisions you will make. You may have a choice in on-the-job training. You may have an opportunity to specialize, seek a promotion, return to school for a graduate degree (perhaps at company expense), switch to another firm, go into business for yourself, or shift to a different type of work--related or not. Job decisions are based on incomplete information. After you have worked at a job for a while, you will know better whether or not it is for you and where you want to go from there. It is possible to redirect a career. Conditions change and flexibility is needed. Harriet C. Seligsohn of the University of South Florida says, "We live in a dynamic society and the categorizing of curricula and careers is like a snapshot from a moving picture."

IF YOU ARE UNDECIDED ABOUT YOUR MAJOR

There are two ways to choose a major. Some students select a field of study that interests them; the field of study can then lead to an area of work. Other students select an area of work and find an educational program that prepares for it.

If you are undecided about both major and line of work, where can you begin? For the undecided, the *Guide for Occupational Exploration* (National Forum Foundation, 1984) lists jobs by broad interest areas, grouping those that require similar adaptabilities and capabilities. Instead of exploring thousands of jobs, you can concentrate on those related to your interests and abilities.

More information about many of the jobs can be found in the *Occupational Outlook Handbook* from the Department of Labor, Bureau of Labor Statistics (updated every 2 years).

If you are not sure about your interests or abilities, a vocational counselor can help; or you may be able to take a course in career planning, offered now at many colleges. Also, there are self-guidance workbooks for analyzing your successes and other experiences to identify preferences and strengths.

Work-study programs, part-time or summer jobs, and volunteer work supply unique opportunities to find out, first hand, whether or not a particular type of work is really what you want.

If you cannot decide between two majors, it is possible to have a double major or to major in one subject and minor in another unrelated field. For example, a student might major in fine arts and also study accounting. It is possible to follow a double major with a dual career. There is a musician who is also an employment interviewer, a poet who is a medical doctor.

It is all right to be undecided. There are advantages to exploring a variety of fields. You can study different subjects before deciding on a major and sample jobs before deciding on a line of work. Remember that a decision as to major or job is not final. You can change your direction.

Dr. Lawrence R. Malnig of Saint Peter's College, tells students, "In college you will encounter many new ideas and experiences. If you make your career choice too soon, you may close off avenues that suit you better."

MAJORS

ANTHROPOLOGY

Anthropology is the analytical study of humanity in all its diversity, from origin of the species to urban societies. By finding out how people have survived disasters and adapted to changing conditions, we have a better understanding of our own capabilities and potential.

There are four branches of anthropology: biological, archeological, linguistic, and cultural. Students majoring in anthropology are introduced to all four branches, then specialize in one of them. Field work is an essential part of their study. They travel to analyze human physical characteristics, artifacts, speech, or customs. Students are advised to attend a university or college with a museum program and field work in an area that interests them. No school can offer field work in all parts of the world. Anthropology students study sociology, history, economics, political science, languages, biology, and statistics, but course work varies with specialization.

Coursework of biological anthropologists, for example, includes physiology, anatomy, evolution, and genetics. Biological anthropologists gather data on the physical characteristics of people, such as head shapes or the percentage of each blood type within a population. By analyzing this data statistically, with aid of computers, they are able to trace the migrations and intermingling of people. They work with human remains from archeological sites to learn more about human ancestors: the diet deficiencies and diseases that wiped out populations, injuries and early methods of surgery, and changes in body type indicating that one population was replaced by another.

The coursework of archeologists (archeological anthropologists) emphasizes geology, paleontology, history, and art history. Archeologists study the remains of extinct cultures in order to reconstruct how people lived. Archeological finds rarely include works of art. More commonly, finds consist of bones and everyday objects, such as stone chips left from toolmaking. Field work is often dusty and requires much patience in tediously removing and cleaning delicate objects. Since sites often are in layers, one culture built on the ruins of another, the exact location of each artifact is important and must be carefully recorded and photographed.

Archeologists specialize in one area of the world and one period of time, either historic or prehistoric. The languages they study vary with the specialization. Some archeologists work in diving teams, exploring sunken ships to trace the development of trade routes and shipbuilding. Others are experts in geological problems, dating finds from the rock layers in which they are found or locating the sources of a culture's materials, such as stone, copper, and gold. Some archeologists are sufficiently expert in botany to identify trees, for example, from charcoal. Some even specialize in pollens. Identification of pollens is used to determine the type of vegetation and, therefore, the climate at a particular period of time. Instead of looking for skeletons or ruins, linguistic anthropologists learn about people by dissecting and comparing their languages. They use recorders and audiovisual equipment to record speech patterns. They trace migrations by collecting data on language similarities and analyzing the data with the aid of computers. They invent alphabets for unwritten languages, write grammar books, decipher hieroglyphics, translate, and program computers to translate. They analyze how the structure of language influences thinking and compare the myths or folk legends of different peoples.

Cultural anthropology is related to sociology. Cultural anthropologists conduct research on different cultures by living in them and observing firsthand the way people live, produce goods, trade, and relate to each other. They use photography to document their observations and collect examples of tools, crafts, and ceremonial objects. Cultural anthropologists have to be unusually adaptable as to living conditions and diet.

To work in any branch of anthropology, an advanced degree is needed, usually a Ph.D. Most anthropologists work for universities and colleges; some for museums or government. There are only a few thousand anthropologists in the entire country and openings are scarce.

The B.A. degree in anthropology, however, has practical applications. The anthropology student learns to allow for differences in cultures. This is helpful in health careers, social services, business, and urban planning. The ethnic composition of our population is becoming increasingly diverse, and anyone dealing with the public needs some understanding of their languages and cultures.

MARKETABLE SKILLS

ANTHROPOLOGY MAJORS

- Dealing with people of diverse cultures, making allowances for differences in customs and beliefs
- Providing insight into social problems by supplying information as to how problems, such as aging or bereavement, are dealt with in other cultures
- Interviewing people to obtain information about their attitudes, customs, and beliefs
- Using statistics and computer science to analyze data
- Adapting approaches used in public relations, marketing, or politics to different population groups
- Working cooperatively with others, adapting to varied conditions
- Appraising, classifying, and cataloging valuable items
- Designing and lighting attractive displays
- Preserving objects, such as costumes and documents by selecting chemical treatment, temperature, humidity; refurbishing antiques
- Drawing maps and construction models to scale
- Photographing sites, objects, people, and occasions
- Interpreting or translating
- Using scientific equipment and measuring instruments
- Analyzing craft techniques
- Demonstrating ethnic arts; for example, singing folk songs or preparing ethnic foods

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	ANTHROPOMETRIST (Consultant in sizing of clothing or design of furniture, car seats, safety equipment)	055.067-014	graduate degree in biological or physical anthropology	mfrs of gas masks, life preservers, pilot seats, diving equipment, other furnishings that must fit different sizes of people
	SOCIOLOGIST	054.067-014	graduate degree in sociology	universities, govt human-resource agencies, private research organizations
	RESEARCH WORKER, SOCIAL WELFARE	054.067-010	graduate degree in sociology or social work	social welfare agencies, schools of social work
	MARKET-RESEARCH ANALYST pollster public opinion surveyor	050.067-014	Helpful: courses in economics, marketing	mfg companies, independent advertising agencies, market-research organizations, universities
	HISTORIAN, DRAMATIC ARTS (Researches locale for dramas.)	052.067-026	Helpful: experience in dramatics; courses in theater arts, communications	theatrical costume & make-up companies, T.V. broadcasters, motion picture companies
	ETHNOLOGIST ETHNOGRAPHER (Makes comparative studies of cultures.)	055.067-022	Ph.D.	universities

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	DEMOGRAPHER I	020.167-026	______	govt agencies, research organizations
	STATISTICIAN, APPLIED biometrician	020.167-026	______	industries & organizations conducting research
	RESEARCH ASSISTANT (Researches archeological & historical sites to prepare dioramas.)	109.267-010	graduate internship in a museum	museums
	RESEARCH ASSOCIATE	109.067-014	master's degree as a minimum; usually completion of academic requirements for Ph.D.	museums, zoos, botanical gardens usually associated with colleges or universities; colleges & universities; commercial enterprises, govt
	GENEALOGIST	052.067-018	______	private genealogy services
	CITY PLANNING AIDE	199.364-010	For Advancement: master's degree in community planning or in public administration	local govt
	URBAN PLANNER city, community, or regional planner	199.167-014	Preferred: 1-year master's degree in community planning Helpful: courses in architecture, administration	regional planning organizations, consulting firms, public housing authorities, & other govt agencies

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING CULTURAL RESOURCES	SUPERVISOR, HISTORIC SITES cultural-resource manager	102.117-010	graduate degree in archeology or history Helpful: courses in public administration, communications	historical societies, govt--including U.S. Department of the Interior, some State park services, city landmark preservation commissions
	PARK RANGER (Assigned to archeological or historical landmarks, as Civil War battlefield, Indian mounds, or pictographs.)	169.167-042		govt
APPRAISING, CATALOGING, AND CARING FOR COLLECTIONS	APPRAISER, ART (specializing in prehistoric, ancient, or ethnic art)	191.287-014		art galleries, museums, universities
	PALEONTOLOGICAL HELPER	024.364-010		museums, universities
	ARCHIVIST	101.167-010	1-year graduate study in history or archeology Helpful: courses in library & computer science; or internship with a library, museum, or historical society	universities, colleges, museums, special libraries, historical & archeological societies
	CONSERVATOR, ARTIFACTS ART CONSERVATOR	055.381-010 102.167-010	master's degree in museology (museum studies)--3 years, including internship (some fellowships available with stipend); courses in physics, chemistry	universities, museums--art, archeology, history, natural history

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
APPRAISING, CATALOGING, AND CARING FOR COLLECTIONS	CONSERVATION TECHNICIAN MUSEUM TECHNICIAN ARMORER TECHNICIAN	102.261-010 102.381-010 109.281-010	________	universities, museums--art, archeology, history, natural history
	DOCUMENT RESTORER RESTORER, PAPER AND PRINTS	979.361-010 109.361-010	courses in chemistry, physics, botany, photography, art history; museum internship	museums, libraries, archives, private & public historical societies, film collections
	RESTORER, LACE AND TEXTILES	102.361-010	undergraduate degree in history, art history, archeology, or anthropology plus graduate training in conservation & restoration of textiles & fibers	museums--history, multidiscipline, textile, ethnic, & industrial--restored communities; restoration labs; govt
	RESTORER, CERAMIC	102.361-014	undergraduate & graduate courses in art history, archeology, physics, chemistry, & ceramic engineering; excellent finger dexterity & motor coordination	science, history, art, multidicipline, & specialty museums; historical or ethnic community museums; govt; restoration labs
	FINE ARTS PACKER (Supervises packing operations.)	102.367-010	________	museums
DESIGNING	EXHIBIT ARTIST	142.261-010	art courses, portfolio, photography skills, ability to fashion objects from clay, plastic, wood, fiberglass or paper-mache´	most science, natural history, industrial, & multidiscipline museums or planetariums; National Park Service; some art & history museums, zoos & botanical gardens; private employers specializing in this service

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING	MANAGER, DISPLAY (Develops window & interior displays for stores.)	142.031-014	experience in designing & lighting museum displays	retail stores
	SET DESIGNER (Designs sets in apppropriate style of period.)	142.061-046 142.061-050	Helpful: courses in communications, theater arts	motion picture companies, T.V. broadcasters, theaters
	EXHIBIT DESIGNER	142.061-058	bachelor's degree &, sometimes, master's degree in art, with emphasis on design, museography, or graphics; degree in architecture, engineering, or museum studies may be a requirement or acceptable alternative depending upon institution	museums, planetariums, some zoos & botanical gardens, commercial exhibit & display fabrication firms, National Park Service, other Federal, State & local agencies
PHOTOGRAPHING	PHOTOGRAPHER, SCIENTIFIC (Usually specializes in specific field, such as chemistry, biology, medicine, metallurgy, physiology, astronomy, aerodynamics, ballistics, or engineering.)	143.062-026	________________	museums, archives, hospitals, industrial labs, research organizations, advertising agencies, commercial photographic studios
MAPPING AND MODEL MAKING	DRAFTER, TOPOGRAPHICAL	189.261-014	good eyesight Helpful: artistic ability; courses in drawing, design	govt, surveying crews, map publishers
	EDITOR, MAP	018.261-018		
	DIORAMA MODEL-MAKER	739.361-010	craft skills	museums, display companies
	MINIATURE-SET CONSTRUCTOR	962.381-018	experience in constructing models of archeological sites	motion picture & T.V. producers

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	BIOGRAPHER WRITER, PROSE, FICTION AND NONFICTION	052.067-010 131.067-046		magazines, book publishers--freelance
	PROCESS-DESCRIPTION WRITER	131.267-026		industries, mfrs of do-it-yourself kits
	EDITOR, DICTIONARY lexicographer	132.067-018	specialization in linguistic anthropology	dictionary publishers
EDUCATING	PUBLIC HEALTH EDUCATOR	079.117-014	undergraduate courses in physiology, bacteriology, chemistry, biology, educational & social psychology, cultural anthropology, sociology Preferred: master's degree in health education	govt agencies, international health programs community & regional planning councils, public housing projects, hospitals, clinics, industries, agricultural extension services, colleges & universities
	TEACHER, SECONDARY SCHOOL social-science high school teacher	091.227-010	certification with State dept of education; master's degree--in some States after specified period of time	public & private high schools
	TEACHER, ELEMENTARY SCHOOL bilingual teacher language teacher	092.227-010	teacher's certificate (Check on State requirements.)	elementary schools

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EDUCATING	TEACHER, ADULT EDUCATION (Teacher of English as a second language.)	099.227-030	concentration on linguistic anthropology	schools, community organizations
	TEACHER (museum)	099.227-038	(Requirements vary with the museum.) Helpful: graduate degree, travel, experience in teaching or in anthropology or archeology	museums of natural history, anthropology, archeology, ethnic art
	CRAFT DEMONSTRATOR	109.364-010	knowledge of history of time & period; craft techniques of time & area.	history or folk museums; restored farms, villages or neighborhoods; historical sites
GUIDING, INTERPRETING, TRANSLATING	GUIDE, TRAVEL tour guide	353.167-010	______	travel services
	GUIDE, ESTABLISHMENT museum guide seasonal guide at caves or historic sites	353.367-014	______	museums, govt, historical assocs, private owners of tourist attractions
	PASSENGER SERVICE REPRESENTATIVE (assisting foreign-speaking passengers)	359.677-022	______	airlines
	INTERPRETER escort interpreter (often part-time)	137.267-010	fluency in two or more languages, availability to travel	freelance

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
GUIDING, INTERPRETING, TRANSLATING	TRANSLATOR (often part-time)	137.267-018	____________	freelance
HELPING PEOPLE	GROUP WORKER PROGRAM AIDE, GROUP WORK RECREATION LEADER	195.164-010 195.227-010 195.227-014	Preferred: master's degree in social work Helpful: craft or sport expertise, leadership experience	housing projects, halfway houses, community centers, recreation depts, YM-YWCA's, YM-YWHA's, institutions, resorts
	ELIGIBILITY WORKER (public assistance)	195.267-010	____________	depts of public assistance, local welfare offices
	CLINICAL SOCIOLOGIST	054.107-010	master's degree in sociology with clinical training	universities, govt, human-resource agencies, private research organizations
DEALING WITH PEOPLE	PUBLIC-RELATIONS REPRESENTATIVE	165-067-010	courses in public relations, journalism, communications, or in a field related to the firm's business, such as biology or finance	mostly large corps, public-relations consulting firms, mfrs, public utilities, transportation or insurance companies, trade & professional assocs, museums, educational institutions, health & human-service organizations, govt
	HEALTH OFFICER, FIELD	168.167-018	____________	govt
	ADMINISTRATIVE ASSISTANT personnel administrative trainee	169.167-010	____________	business, industrial, philanthropic, or govt organizations
	PASSPORT-APPLICATION EXAMINER	169.267-030	____________	govt

MAJOR: ANTHROPOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	TRAVEL AGENT	252.157-010		travel agencies
	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTIONS	259.157-010		motion picture companies
	SALESPERSON, STAMPS OR COINS	277.357-062	Helpful: courses in classics, art history, history, economics, archeology	coin dealers, department stores
	SALESPERSON, ART OBJECTS	277.457-010		art dealers, galleries

Note: For further suggestions, see listings under "Biology" and "Any Major."

MORE INFORMATION

American Anthropological Association, 1703 New Hampshire Avenue, NW, Washington. D.C. 20009.

American Association of Museums, 1225 I Street, N.W., Suite 200, Washington, D.C. 20005.

The American Philological Association, Department of Classics, Fordham University, Bronx, New York 10458. Ask for *Careers for Classicists* for students interested in Greek and Roman archeology. Fee.

Anthropologists and archeologists at the university or museum nearest you.

Anthropology and Archeology. Subject bibliography #205 available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The Archaeological Institute of America, P.O. Box 1901, Kenmore Station, Boston, Massachusetts 02215. Ask for *Archaeology as a Career* by John Howland Rowe.

INTAC tape series, Northern Illinois University.
Phone (815) 753-0414 and ask for tape No. 832, *Anthropology*.

Museum Reference Center, Office of Museum Programs, Arts and Industries Building, Room 2235, Smithsonian Institutions, Washington, D.C. 20560. Ask for *Museum Studies Programs in the United States and Abroad*.

National Trust for Historic Preservation, 1785 Massachusetts Avenue, N.W., Washington, D.C. 20036

Society for American Archaeology, 1511 K Street, N.W., Suite 716, Washington, D.C. 20005.

ARTS, PERFORMING

The largest number of performing artists are instrumental musicians. They are followed by singers, actors, and dancers--in that order.

Considering the power that music has to delight and comfort the human spirit one might think that musicians would be well paid--such is usually not the case. Most instrumentalists, singers, and dancers--actors, too--find it necessary to hold other jobs in order to support themselves. Some go to full-time jobs in addition to their performances and rehearsals. Engagements are often short term and may end unpredictably, when a show closes.

Success requires an unusual combination of talent, persistence, and luck. Performing artists generally practice daily, beginning long before they reach college age. If they attend college, they may study musical composition or playwriting, psychology for help in interpreting roles, and arranging, directing, and business administration (for managing entertainment). They may also study communications, education (including physical education--for teaching dance), anatomy--to better understand body structure and movement, foreign languages, and the history of drama and music, to become familiar with the music and drama of other times and other countries.

The performing arts overlap. Singers need to know how to act in order to interpret music. Actors often need to sing, dance, or perform martial arts or acrobatics. Versatility is helpful in finding engagements.

Performing artists have to pass auditions. Physical appearance is important for actors, who must fit the director's concept of the roles they are to play. Attractiveness or distinctive characteristics are helpful. With orchestras, the situation is different: to avoid bias in selecting instrumental musicians, most orchestras now place their judges behind a screen during auditions.

Auditions require time, travel expenses, and perseverance in the face of repeated rejections. Examples of these difficulties were cited by Bernard Holland in a New York Times article which appeared some years ago. A music student failed 17 auditions in a row before being accepted as the principal player in an orchestra. Another example mentioned was that of 160 trumpet players who applied for a single opening.

MARKETABLE SKILLS
PERFORMING ARTISTS

- Getting an enthusiastic response from an audience
- Using any combination of music, speech, and movement to present a moving interpretation of human experience
- Expressing character and emotion through the voice or through body movements
- Using the body to tell a story or to form changing patterns in space
- Memorizing and following detailed instructions, responding to cues
- Coordinating (or harmonizing) performance with that of others; synchronizing music, movement, voice, and lighting effects
- Using creativity to perform with originality, arrange a program of music, create dance routines, compose music, or write songs or plays
- Demonstrating to others how ideas in a script can be conveyed to an audience
- Locating and obtaining settings, costumes, properties, and other effects
- Making objective judgments about artistic works and their performance

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ACTING	ACTOR DRAMATIC READER understudy	150.047-010	pass audition; willingness to explore feelings; availability to travel & work irregular hours; stamina Helpful: courses or lessons in voice, dancing, singing, fencing, foreign languages; knowledge of makeup & costuming; experience in school productions or little theater For Advancement: union membership	casting offices for radio, T.V., & motion picture studios; advertising agencies (for commercials); theaters (including little theaters, community theaters, summer stock, dinner theaters); nightclubs; resort hotels; opera companies
	COMEDIAN MIME	159.047-014 159.047-022	Helpful: sample tape of performance	theaters, nightclubs, motion picture & T.V. studios, booking agents, entertainment groups, freelance for parties
	PUPPETEER	159.041-014	a sense of playfulness Helpful: courses in design	
	MODEL fashion model	297.667-014	____________________	modeling agencies, fashion photographers, garment designers, fashion illustrators, retail department stores
	MODEL, PHOTOGRAPHERS'	961.367-010	____________________	photographic studios, photographers, art schools

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERFORMING MUSICALLY	SINGER (Mostly short-term jobs)	152.047-022	outstanding voice quality, vocal training, stamina, availability to travel & work irregular hours Helpful: courses in drama, phonetics, languages, dance, musical instruments, participation in school recitals, talent shows	motion picture studios, recording companies, theaters, radio and T.V. studios, nightclubs, hotels, churches, touring dance bands, opera companies, symphony orchestras, advertising companies (for singing commercials)
	DANCER ACROBATIC DANCER TAP DANCER ethnic dancer (mostly short-term jobs)	151.047-010	years of training in dance studio; audition; availability to travel & work irregular hours	theaters, nightclubs, T.V. studios, ships, hotels, resorts, circuses, ballet troupes, dance companies, ice skating shows
	MUSICIAN, INSTRUMENTAL (mostly short-term jobs)	152.041-010	years of practice; ability to sightread, improvise, & pass audition; availability to travel & work irregular hours; stamina Helpful: courses in dancing & acting; all the performance experience you can get	theaters, recording studios, advertising agencies (for commercials), dance bands, choral groups, restaurants, churches
NARRATING AND ANNOUNCING	ANNOUNCER DISK JOCKEY	159.147-010 159.147-014	ability to ad lib; pass taped audition (Check on need for union membership. At small stations, check on need for Federal Communications third-class license to operate transmitting equipment.)	broadcasting stations & networks

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
NARRATING AND ANNOUNCING	NARRATOR motion-picture commentator	150.147-010	pass audition	motion picture companies
	INTERPRETER	137.267-010	fluency in two or more languages, availability to travel, good hearing	govt, international organizations, news services, or freelance--here or abroad
	INTERPRETER, DEAF interpreter for the deaf	137.267-014	facility with sign language, good hearing Helpful: mime courses	T.V. networks (mainly in New York, Los Angeles, Chicago)
	RING CONDUCTOR	159.367-010	________	circuses, amusement parks
	BARKER (seasonal employment)	342.657-010	________	
WRITING	CONTINUITY WRITER (Writes material that is read by announcer to connect parts of a musical program.)	131.087-010	________	radio & T.V. stations
	SCREEN WRITER script writer (Writes program scripts, news, commercials.)	131.087-018	work samples Helpful: courses in marketing, political science	T.V. stations or networks motion picture companies, producers of educational films & audiovisual aids
	PLAYWRIGHT	131.067-038	Helpful: showcase production by a theater workshop	theater groups, motion picture & T.V. producers, publishers of plays

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	HUMORIST COMEDY WRITER GAG WRITER	131.067-026	sample of writing for comedy show	entertainers, radio & T.V. stations & networks
	LIBRETTIST (Writes text for musicals or operas and adapts words to music.) LYRICIST song writer	131.067-030	portfolio of work samples Helpful: courses in poetry, as well as music & drama	musical organizations, music publishers, composers, producers of motion pictures or radio & T.V. programs--or freelance (bringing songs to attention of singers or recording studios)
	music writer (Writes directions on how to play musical instruments.)	———	———	mfrs of musical instruments, publishers of music & books on music
COMPOSING AND ARRANGING	COMPOSER	152.067-014	samples of original musical compositions Helpful: experience as an orchestrator	music publishers, broadcasting stations, theaters, recording companies, T.V. studios, advertising companies (for commercials)
	ORCHESTRATOR ARRANGER	152.067-022 152.067-010	familiarity with many musical instruments	orchestras, bands, choral groups
	CUE SELECTOR (Integrates music with story line.)	152.067-018	knowledge of film scoring	T.V.stations, motion picture producers
	SOUND MIXER music mixer (Controls sound in recording studio.)	152.067-018	familiarity with audio equipment, good hearing	broadcasters; film, tape, & record studios; independent program-production companies

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING	DRAMA CRITIC MUSIC CRITIC	131.067-018	experience as a "stringer" (freelance reviewer of a particular event)	newspapers, magazines, radio, public & cable T.V. stations--or freelance
	program annotator (Writes commentary describing a play or musical performance.)	—	—	publishers of theater programs
	DIRECTOR, CASTING (Auditions performers.) ARTIST AND REPERTOIRE MANAGER (Auditions artists, selects music.)	159.267-010 159.167-010	knowledge of vocal & instrumental techniques, familiarity with popular taste in music	motion picture, radio & T.V. producers, recording studios--phonograph, tape, disk, video
	MUSIC LIBRARIAN (Selects music, develops & circulates collection, acts as consultant, sponsors musical events.)	100.367-022	master's degree in library science Helpful: knowledge of German & at least one Romance language	public libraries, radio & T.V. stations, universities, music conservatories, colleges
	MUSIC LIBRARIAN, INTERNATIONAL BROADCAST	100.367-026	knowledge of foreign languages, familiarity with listening tastes of different cultural groups, master's degree in library science	radio & T.V. networks
	orchestra librarian (Acquires instrumental music for an orchestra.)	—	—	orchestras

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING	INTERVIEWER contestant interviewer (Selects participants for T.V. game shows.)	166.167-010	Helpful: courses in communications	T.V. broadcasters
	COPYRIGHT EXPERT (Examines musical arrangements to make sure they do not infringe on copyrights.)	249.267-010	on-the-job training Helpful: specific course in music business	radio & T.V. broadcasters, music publishers
DIRECTING AND TEACHING	DIRECTOR, RADIO (Selects performers, integrates program, directs rehearsals & broadcasts.)	159.167-014	Helpful: experience in school broadcasts	radio stations
	PROGRAM ASSISTANT production assistant associate director	962.167-014	Helpful: experience in school broadcasts	public & cable T.V. stations
	TELEVISION SCHEDULE COORDINATOR	199.387-010		public & cable T.V. stations
	MANAGER, STAGE	159.167-018	Helpful: experience as student director of stage productions	theaters
	DIRECTOR, MUSIC music director	152.047-018	skills in arranging & directing music	radio & T.V. broadcasters, motion picture producers
	CHORAL DIRECTOR choir leader	152.047-010	Helpful: experience with school glee clubs	churches, glee clubs, choral groups

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DIRECTING AND TEACHING	music education director		degree in music education, ability to play musical instruments	large music stores offering classes & programs
	CANTOR	129.027-010	degree in music education, specific courses in religious music	synagogues
	CONDUCTOR, ORCHESTRA	152.047-014	familiarity with characteristics of different musical instruments, experience with school orchestra	orchestras (few openings), dance bands
	PROMPTER	152.367-010		opera companies
	CHOREOGRAPHER	151.027-010	extensive experience as dancer & dance instructor, creative ideas for original dances	dance companies, theater groups, motion picture producers, T.V. producers
	INSTRUCTOR, DANCING INSTRUCTOR, BALLROOM DANCING, TEACHER, BALLET	151.027-014	ability to demonstrate dance techniques, knowledge of dance notation, ability to choreograph & direct student performances (For public school teaching, check on State requirements.)	dance companies, schools of dancing, community centers, public & private schools

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DIRECTING AND TEACHING	DRAMATIC COACH (Coaches performers to pass auditions.)	150.027-010	experience acting for motion pictures, stage or T.V.; ability to analyze scripts, demonstrate character interpretation & acting techniques	acting schools or self-employment
	TEACHER, DRAMA	150.027-014	ability to produce & direct school plays, degree in drama education (For public school teaching, check on State requirements.)	acting schools, public & private schools, community centers, little theater groups
	TEACHER, MUSIC	152.021-010	for teaching in elementary school--a degree in music education & meet State requirements; for teaching in college--an advanced degree; for giving private lessons--play better than your best pupil	public & private schools, music stores, community centers, or self-employment
USING PERFORMING ARTS IN THERAPY OR RECREATION	MUSIC THERAPIST creative arts therapist	076.127-014	degree in music therapy, 6-month internship	psychiatric hospitals, mental-retardation centers, physical-disability treatment & training institutions, daycare centers, nursing homes, special education programs, mental-health centers
	DANCE THERAPIST	076.127-018	master's degree in dance therapy	
	RECREATION SUPERVISOR (Coordinates recreational activities, including music & dance.)	187.137-010	courses in recreation	institutions for children or aged, hospitals, community centers, prisons

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
USING PERFORMING ARTS IN THERAPY OR RECREATION	cruise director (Organizes entertainment & recreational activities for passengers aboard ship.)	———	Helpful: courses in communications, physical education	cruise lines
MANAGING ENTERTAINMENT BUSINESSES	MANAGER, THEATER	187.167-154	courses in business administration	theaters
	MANAGER, DANCE STUDIO	187.167-086	courses in business administration	dance studios or self-employment
	MANAGER, DANCE FLOOR	187.117-042	courses in business administration	recreational facilities
	MANAGER, NIGHT CLUB	187.167-126	courses in business administration	night clubs
	MANAGER, TOURING PRODUCTION COMPANY MANAGER ROAD MANAGER	191.117-038	master's degree in business administration	theatrical companies
	BUSINESS MANAGER	191.117-018	courses in business administration	musical groups, entertainers, theatrical agencies
PROMOTING	FASHION COORDINATOR (Promotes new fashions by staging fashion shows.)	185.157-010	Helpful: courses in public relations, fashion design	department stores
	SONG PLUGGER	165.157-010	Helpful: public relations courses	mfrs of recordings

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	ADVANCE AGENT	191.167-010	Helpful: public relations courses	motion picture companies, touring theatrical companies, circuses
	publicist (Prepares copy about client & persuades press to use it in editorial space.)		courses in journalism or public relations	well known performing artists, record companies, musical groups
	PUBLIC-RELATIONS REPRESENTATIVE (Develops favorable image, writes copy about client for use by different media.)	165.067-010	courses in business administration, journalism, public relations, communications	musical instrument companies, music assns. music-educator groups, symphony orchestras, public relations firms.
SELLING	BOOKING MANAGER BAND BOOKER	191.117-014	Helpful: business administration courses	booking agencies, motion picture companies, bands, or self-employment
	CIRCUS AGENT	191.117-022	Helpful: business administration courses	circuses
	SALES REPRESENTATIVE, DANCING INSTRUCTIONS	259.357-014		dance studios
	SALES REPRESENTATIVE, MUSICAL INSTRUMENTS AND ACCESSORIES	277.357-014		wholesale dealers in musical instruments & equipment
	SALESPERSON, MUSICAL INSTRUMENTS AND ACCESSORIES	277.357-038		music & department stores

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALESPERSON, PIANOS AND ORGANS	277.354-010	______	music stores
	SALESPERSON, PHONOGRAPH RECORDS AND TAPE RECORDINGS	277.357-046	______	record & department stores
	SALESPERSON, SHEET MUSIC	277.357-054	______	music stores
	SALESPERSON, STEREO EQUIPMENT	270.357-038	______	music stores
	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTIONS	259.157-010	______	recording services, producers of films & taped programs
MAKING AND REPAIRING MUSICAL INSTRUMENTS	PIANO TECHNICIAN	730.281-038	electives in tuning & repair or attend 2-year course, or on-the-job training	musical instrument mfrs, music stores, or self-employment
	PIPE-ORGAN TUNER AND REPAIRER	730.361-014	mechanical skills & on-the-job training	musical instrument mfrs or self-employment
	VIOLIN MAKER, HAND VIOLIN RESTORER	730.281-046	Attend violin-making school--usually 3-4 years--or woodworking skills & on-the-job training	musical instrument mfrs or self-employment
	VIOLIN REPAIRER	730.281-050	on-the-job training	musical instrument mfrs or self-employment

MAJOR: ARTS, PERFORMING

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MAKING AND REPAIRING MUSICAL INSTRUMENTS	WIND-INSTRUMENT REPAIRER	730.281-054	on-the-job training	musical instrument mfrs, music stores
	BOW MAKER	730.281-058		
	electronic instrument repairer (Repairs electronic organs & synthesizers.)		engineering courses (to understand microcircuitry & computer technology)	musical instrument & sound-equipment mfrs
	designer, musical instruments & accessories		mechanical ability, inventive ideas	musical instrument mfrs
STAGING	PROP ATTENDANT	962.684-022	guild membership Helpful: experience in high school, college theater, summer stock, community theater	motion picture & T.V. studios, theaters
	STAGE TECHNICIAN	962.261-014	guild membership Helpful: experience in high school, college theater, summer stock, community theater	motion picture & T.V. studios, theaters

MORE INFORMATION

American Alliance for Health, Physical Education, Recreation, and Dance, National Dance Association, 1900 Association Drive, Reston, Virginia 22091.

American Association for Music Therapy, 66 Morris Avenue, P.O. Box 359, Springfield, New Jersey, 07081. Ask for a list of educational institutions offering a degree in music therapy and approved by AAMT.

American Dance Therapy Association, 2000 Century Plaza, Suite 108, Columbia, Maryland 21044.

American Federation of Television and Radio Artists, 260 Madison Avenue, New York, New York 10016.

American Music Conference, 303 E. Wacker Drive, Suite 1214, Chicago, Illinois 60601. Ask for *Careers in Music*.

American Music Instrument Society, c/o The Shrine to Music Museum, 414 E. Clark Street, Vermillion, South Dakota 57069, tel. #(605) 677-5306.

American Society of Cinematographers, 1782 Orange Drive, Hollywood, California 90028.

Association of Cinema and Video Laboratories, Inc., P.O. Box 34932, Bethesda, Maryland 20819.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for *Instrumental Musician*, Guide No. 301.

Career Opportunities in the Music Industry, by Shirley Field, Facts on File Publications, New York, New York, 1986.

Jobs in recording, writing, business, churches, crafts, and other fields. Skills, advancement, tips on entry, etc. See appendixes for sources of funding for education, schools, contacts.

How to Succeed In Show Business By Really Trying by Michael Lydon. Dodd Mead and Company, New York, 1985.

Advice from well known performers on all aspects of field from technique to business details.

National Association for Music Therapy, 505 11 Street, S.E., Washington, D.C. 20003. Ask for a list of educational institutions offering a degree in music therapy and approved by NAMT.

Piano Technician's Guild, 211 W. 58 Street, New York, New York 10019.

ARTS, VISUAL

Visual arts use a large variety of materials and techniques to express ideas through evocative images. Art majors study the history of art and try out different media and styles before deciding on a specialization. This may be industrial design, applying art to the planning of interiors, packaging, machines, toys, textiles, clothing--any product constructed or manufactured; graphic design, applying art to publications and the mass media; printmaking; painting; sculpture; or crafts.

Fine art is a term used for work created purely for its esthetic value. In addition to painting, printmaking, and sculpture, the traditional fine arts, almost any art form can be used--weaving, neon, and video, as examples.

Commercial, industrial, and fine arts overlap. An artist can make both functional objects and objects that are intended only for exhibit. If you are planning to specialize in fine art, you need some means of support during the time it takes--usually years--to build a body of work and a reputation as an artist. In the past, artists frequently paid their expenses by teaching art, but openings now are scarce. Some artists manage on part-time jobs, grants, and occasional commissions. A double major followed by a double career--doing "your own work" evenings and weekends--is another possibility.

If you plan to exhibit, you need to learn how to frame or mount your work, photograph it--for color slides, and pack it for safe shipping to exhibits and sales. If you plan on craft work, accounting and marketing courses can show you how to market your own art and keep business records. Communications courses are helpful for graphic arts. Anatomy courses are needed for representing the human figure. Engineering or science courses give a better understanding of materials used.

In addition to studio arts, other specializations are art education and art history. Art education combines a broad survey of different studio arts with education courses and practice teaching.

Art history is part of the visual arts curriculum, and a few students decide to major in it, combining art with history, philosophy, anthropology, political science, literature, and music for a broad view of esthetics and cultural history. Art historians evaluate art but are not necessarily artists themselves. Openings in museums, galleries, and universities require graduate study--a Ph.D. for universities--and specialization, which may be, for example, in tribal art or French Impressionism.

MARKETABLE SKILLS
VISUAL ARTS MAJORS

- Originating new ideas and communicating them graphically
- Interpreting rough sketches, data, or verbal instructions to produce creative art works
- Visualizing and evaluating finished products before their completion; weighing esthetic alternatives and making choices
- Adapting techniques, tools, and materials to different printing processes, budget limitations, or final uses; selecting suitable tools, materials, and techniques for each project; planning step-by-step procedures to attain desired visual effects
- Designing products to meet the needs and tastes of the public
- Using pictures, typography, and arrangement to enhance written messages and promote the sale of goods, services, and ideas; designing ads and packages that say, "Buy me"
- Creating a single, decisive picture to capture an idea or event; illustrating literary works with representations that fit the details and mood of the text
- Creating two-dimensional works by applying techniques such as painting, mixing paints, stretching canvas, drawing, lettering, engraving, weaving, or photographing; using contrasts and color combinations for visual impact
- Building three-dimensional objects using varied techniques, such as sculpting, modeling, welding, casting, carving, and glassblowing or polishing, cutting, and setting gemstones
- Laying out and drawing schematic or perspective views to depict relationships or assembly sequence of parts; making drawings to illustrate medical or scientific articles
- Criticizing, evaluating, and explaining works of art
- Verbally communicating principles, skills, and appreciation of art to others

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING	INDUSTRIAL DESIGNER jewelry designer toy designer	142.061-026	portfolio of drawings Helpful: courses in engineering, marketing	industries, mfrs
	FURNITURE DESIGNER	142.061-022	courses in furniture styles & design	furniture mfrs
	INTERIOR DESIGNER COLOR EXPERT	142.051-014 141.051-010	2- to 4-year program in interior design Helpful: master's degree in interior design Preferred: certification	interior-design studios, architectural firms, building contractors, corporations, govt, self-employment
	lighting designer	———	imaginative lighting ideas Helpful: courses in theater arts, engineering, architecture, interior design, computer science	interior designers, discotheques, freelance
	CLOTH DESIGNER	142.061-014	samples of work	textile mfrs
	ASSISTANT DESIGNER MILLINER	781.361-010 784.261-010	courses in fashion design, samples of work	garment mfrs
	MANAGER, DISPLAY DISPLAYER, MERCHANDISE	142.031-014 298.081-010	———	retail stores, wholesale display houses

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING	SET DESIGNER	142.061-046 142.061-050	Helpful: courses in drafting, communications, theater arts; work on set design for school productions	motion picture companies, public & cable T.V. producers, theaters (starting with summer stock or repertory)
	EXHIBIT DESIGNER (Designs & oversees construction of exhibits & displays.)	142.061-058	bachelor's degree &, sometimes, master's degree in art with emphasis on design, museography, or graphics; degree in architecture or museum studies may be a requirement or acceptable alternative, depending on institution	museums, planetariums, some zoos & botanical gardens, commercial exhibit & display fabrication firms, National Park Service, other Federal, State, & local agencies.
	LASERIST	159.062-010		museums, planetariums, theaters
	GRAPHIC DESIGNER	141.061-018	samples of work; courses in typography, layout; courses in science or engineering--for technical advertising	advertising agencies, publishers, graphic arts studios, printing shops, chambers of commerce, direct mail specialist, T.V. production companies (billboards & car cards for trains & buses)
	COMMERCIAL DESIGNER wallpaper designer packaging designer	141.081-014	samples of work	mfrs

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING	ARCHITECT	001.061-010	Bachelor of Architecture degree (5-year curriculum with courses in engineering, urban planning, physics, economics) or master's degree in architecture; pass State licensing exam after practical experience	architectural firms, construction firms, govt agencies (for community & environmental planning), preservation organizations, conversion & renewal projects
	LANDSCAPE ARCHITECT	001.061-018	landscape architecture degree with courses in botany, horticulture, surveying, community planning; State license after practical experience Helpful: business courses, experience in landscaping or drafting for contractors.	landscape contractors, govt (Forest Service)--or self-employment
DRAWING AND PAINTING	ILLUSTRATOR	141.061-022	portfolio of work	book & magazine publishers
	ILLUSTRATOR, MEDICAL AND SCIENTIFIC	141.061-026	portfolio; biology courses; master's degree in medical illustrating for medical work	publishers of scientific & medical journals & books, universities, medical schools, hospitals, dental & veterinary facilities, pharmaceutical firms, research organizations, museums
	TECHNICAL ILLUSTRATOR	017.281-034	course in engineering	publishers of technical journals & books

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DRAWING AND PAINTING	TECHNICAL ILLUSTRATOR	017.281-034	course in engineering	publishers of technical journals & books
	EXHIBIT ARTIST	149.261-010	art courses, portfolio of work, photography skills, ability to fashion objects from clay, plastic, wood, fiber-glass or paper-maché	science, natural history, industrial & multi-discipline museums or planetariums, National Park Service, some art history museums; zoos & botanical gardens; commercial firms specializing in this service
	EDITORIAL CARTOONIST	141.081-010	portfolio of work	book & magazine publishers, newspapers, advertising agencies, or freelance
	CARTOONIST, MOTION PICTURES	141.081-010	samples of work Helpful: courses in computer science for computerized animation	T.V. & motion picture producers
	QUICK-SKETCH ARTIST (usually part-time)	149.041-010	samples of work	amusement centers, freelance at outdoor fairs
	POLICE ARTIST	141.061-034	______	law enforcement agencies
	ARTIST, SUSPECT	970.361-018	______	law enforcement agencies
	COPYIST	142.281-010	portfolio of fashion illustrations	garment industry, fashion designers

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DRAWING AND PAINTING	DELINEATOR ARCHITECTURAL RENDERER INDUSTRIAL RENDERER	970.281-014		industries, construction firms
	FURNITURE REPRODUCER (Prepares drawings & templates of antique furniture & specifies wood & finish to be used.)	149.281-010	course in drafting, knowledge of various woods & finishes	furniture mfrs specializing in reproduction of antiques
	DRAFTER, TOPOGRAPHICAL EDITOR, MAP	018.261-014 018.261-018	good eyesight	govt, surveying crews, map publishers
PHOTOGRAPHING	PHOTOJOURNALIST news photographer	143.062-034	physical stamina Helpful: courses in art, physics, chemistry	newspapers, news magazines, international wire services, T.V. broadcasters, freelance
	PHOTOGRAPHER, MOTION PICTURE	143.062-022	filmmaking workshop, courses in cinematic art Helpful: courses in photography, art, physics (of light)	T.V. broadcasters (public or cable), motion picture companies, producers of T.V. programs
	CAMERA OPERATOR, TELEVISION			
	DIRECTOR OF PHOTOGRAPHY cinematographer	143.062-010		
	OPTICAL-EFFECTS-CAMERA OPERATOR	143.260-010		motion picture studios, private studios serving motion picture industry

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PHOTOGRAPHING	AUDIOVISUAL PRODUCTION SPECIALIST videotape artist	149.061-010	T.V., video or audiovisual production workshop	producers of educational films & audiovisual materials, public & cable T.V. companies, independent producers of videotapes for T.V.
	BIOLOGICAL PHOTOGRAPHER MEDICAL PHOTOGRAPHER	143.362-010	requirements vary--contact prospective employers	publishers of scientific & medical journals & books, universities, medical schools, hospitals, dental or veterinary facilities, pharmaceutical firms, research organizations, museums, advertising agencies
	PHOTOGRAPHER, SCIENTIFIC	143.062-026		
	OPTICAL-EFFECTS-CAMERA OPERATOR	143.260-010	———	motion picture studios, private studios serving motion picture industry
CRAFT MAKING	STAINED GLASS ARTIST GLAZIER, STAINED GLASS	142.061-054 779.381-010	craft skill	stained-glass studios
	STONE CARVER hand carver	771.281-014	craft skill	sculptural services
	CLAY MODELER (Makes clay models of product designs.)	779.281-010	craft skill	mfrs

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
CRAFT MAKING	SUPERVISOR, CLAY SHOP	774.130-010	knowledge of techniques & machines used in manufacture of pottery	pottery mfrs
	THROWER pot maker	774.381-010	craft skill	pottery studios
	GLASSBLOWER, LABORATORY APPARATUS	772.281-010	craft skill	chemical-research labs, universities, glassware mfrs
	SUPERVISOR, UPHOLSTERY DEPARTMENT	780.131-014	knowledge of upholstery methods, styles, fabrics, & design	furniture mfrs, department stores, reupholstery services
CATALOGING AND CONSERVING COLLECTIONS	RESTORER, LACE AND TEXTILES (May specialize in tapestries, Native American blankets, or costumes of a historical era.)	102.361-010	concentration in art history; courses in history, archeology, anthropology; graduate courses in conservation or museum internship	restoration labs--commercial & nonprofit, museums, restored historical communities
	RESTORER, CERAMIC	102.361-014	concentration in art history & ceramics; courses in archeology, physics, chemistry, ceramic engineering; internship in restoration; availability to travel to archeological sites	museums, universities, restoration labs, U.S. govt
	FURNITURE RESTORER	763.380-010	courses in drafting; woodworking & wood finishing shop training or experience	museums, antique-restoration firms, govt facilities

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
CATALOGING AND CONSERVING COLLECTIONS	REPAIRER, ART OBJECTS	779.381-018		museums, restoration labs
	ARCHIVIST (May specialize in photographs or architectural drawings.)	101.167-010	1-year graduate study in history or archeology Helpful: courses in library & computer science; internship with a library, museum, or historical society	universities, colleges, museums, special libraries
	ART CONSERVATOR	102.167-010	master's degree in museology (museum studies)--3 years, including internship (some fellowships available with stipend) Helpful: physics, chemistry	universities, museums, conservation labs--commercial or nonprofit, large restorations, U.S. govt (as National Park Service, Smithsonian Institution)
	CONSERVATION TECHNICIAN	102.261-010		universities, museums
	ARMORER TECHNICIAN	109.281-010	concentration on art history; courses in history, metalwork	universities, museums
	DOCUMENT RESTORER RESTORER, PAPER AND PRINTS	979.361-010 109.361-010	courses in chemistry, physics, botany, photography; museum internship	museums, libraries, archives, private & public historical societies, film collections

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
CATALOGING AND CONSERVING COLLECTIONS	RESTORER, PAINTINGS	102.261-014	skill in oil painting; courses in chemistry, physics; graduate training in restoration of oil paintings	museums, galleries, historical societies, art dealers
	AIRBRUSH ARTIST, PHOTOGRAPHY photograph restorer	970.281-010	———	museums, libraries, commercial restoration labs, archives.
	ART LIBRARIAN AUDIOVISUAL LIBRARIAN film librarian	100.167-026 100.167-010	1-year master's degree in library science	universities, colleges, libraries
	RESEARCH ASSOCIATE	109.067-014	graduate degree Preferred: completion of academic requirements for Ph.D.	universities, colleges, museums
EVALUATING ART	ART CRITIC MOVIE CRITIC	131.067-018	portfolio of work Helpful: communications courses	newspapers, magazines, radio, T.V.
	APPRAISER, ART	191.287-014	major in art history; 6-month internship Helpful: courses in business, insurance, foreign languages	museums, art galleries, antique dealers, insurance companies
	art editor picture editor	———	Helpful: design experience on college publications	magazines

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
USING ART FOR THERAPY	ART THERAPIST	076.127-010	courses in psychology, sociology; master's degree in art therapy; State license for work in public schools	psychiatric hospitals & clinics, community health centers, drug & alcohol clinics, geriatric centers, nursing homes, prisons, schools & institutions for the disabled
TEACHING	TEACHER, ELEMENTARY SCHOOL TEACHER, SECONDARY SCHOOL art teacher craft teacher graphic arts educator	092.227-010 091.227-010	courses in art education; certification with State department of education (Check on State requirements.)	public & private elementary & high schools
	TEACHER (museum)	099.227-038	(Requirements vary with the museum.) Helpful: graduate degree in history, art history, anthropology, or archeology; teaching experience	museums of art, history, or anthropology
	EDUCATIONAL RESOURCE COORDINATOR	099.167-030	bachelor's degree in subject related to institution's specialty & some experience in a teaching capacity; Helpful: curriculum planning experience	education dept of museum, zoo or similar establishment
	TEACHER, ADULT EDUCATION	099.227-030	ability to attract students with an interesting course Helpful: reputation as an artist or art critic	evening schools, community & recreation centers

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	TEACHER, ART INSTRUCTOR, ILLUSTRATION INSTRUCTOR, INDUSTRIAL DESIGN TEACHER, PAINTING-AND-DRAWING TEACHER, SCULPTURING	149.021-010	(Requirements vary with the school.) Helpful: courses in art education; experience as an artist	art schools
	INSTRUCTOR, DECORATING	740.221-010		dinnerware mfrs
	GUIDE, ESTABLISHMENT (often part-time or seasonal) museum guide historical-site guide	352.367-014		museums, govt, art & historical associations
	special guide for the deaf		knowledge of sign language	
	GUIDE, TRAVEL tour guide	353.167-010	travel experience; knowledge of foreign languages & geography Helpful: knowledge of architecture	travel services--including organizations for student travel
DEMONSTRATING	CRAFT DEMONSTRATOR living history model	109.364-010	Helpful: courses or experience in dramatics	farm & folklore museums, community restorations, historic sites, govt historic parks, private reconstructions
	CERAMIC-MAKER DEMONSTRATOR GLASSWARE-MAKER DEMONSTRATOR	297.354-010		department, craft, & art-supply stores
	INSTRUCTOR, PAINTING	297.451-010		

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING, SELLING AND PROMOTING	AUCTION ASSISTANT AUCTIONEER (Specializes in one type of art.)	294.667-010 294.257-010	Helpful: experience as auction assistant, familiarity with art or antiques	art galleries, antiques dealers, auctioneering firms
	SALESPERSON, ART OBJECTS	277.457-010		art dealers, galleries, department stores, museum & book stores
	SALES REPRESENTATIVE, GRAPHIC ART printer's representative	254.251-010	knowledge of graphic art & printing techniques	printers, graphic-arts business services
	SALES REPRESENTATIVE, SIGNS SALES REPRESENTATIVE, SIGNS AND DISPLAYS	254.357-022 254.257-010		sign & display companies
	SALES REPRESENTATIVE, TEXTILE DESIGNS	274.357-066		textile companies
	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTIONS	259.157-010		video & motion picture production companies, recording services
	SALES REPRESENTATIVE, HOBBIES AND CRAFTS	277.357-010		dealers in craft materials

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING, SELLING AND PROMOTING	photographers' representative (Represents photographers & artists & sells their work to art directors of advertising agencies, business corporations, department stores, catalog houses, magazines, book publishers, design studios, record companies, T.V. production companies.)	—	—	photographic studios or self-employment
	SALESPERSON, CHINA AND SILVERWARE (Advises on decorative schemes.)	270.357-018	—	department stores, mfrs of dinnerware
	SALES REPRESENTATIVE, JEWELRY	279.357-018	knowledge of gems	jewelry mfrs & dealers
	BUYER, ASSISTANT	162.157-022	availability to travel	art galleries, retail stores
	PURCHASING AGENT PIECE-GOODS BUYER buyer, art supplies	162.157-038	Helpful: courses in purchasing, graduate degree in business administration	art studios, mfrs of garments or ceramics, art schools
	DIRECTOR, EDUCATION museum educator (Develops & supervises educational or outreach programs, exhibitions, tours, films.)	099.117-030	experience in teaching or public relations Helpful: courses in art education, communications, or public relations, business or public administration, museum science	museums, zoos, botanical gardens

MAJOR: ARTS, VISUAL

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING, SELLING AND PROMOTING	MANAGER, HANDICRAFT OR HOBBY SHOP	187.161-014	Helpful: courses in business administration, marketing, public relations, art education, crafts	handicraft & hobby shops
	EXHIBIT-DISPLAY REPRESENTATIVE	297.367-010	availability to travel	art & antique dealers
	FASHION COORDINATOR (Promotes new fashions & plans fashion shows.)	185.157-010	Helpful: courses in public relations, fashion design, dramatics	department stores

MORE INFORMATION

Alliance of Independent Colleges of Art, 633 E. Street, N.W., Washington, D.C. 20004. Ask for *Career Resources List for Visual Artists..*

American Art Therapy Association, 505 E. Hawley Street, Mundelein, Illinois 60060. Ask for leaflet on guidelines and list of graduate degree programs.

American Craft Council, 40 West 53 Street, New York, New York 10019.

American Printed Fabrics Council, Inc., 1440 Broadway, New York, New York 10018.

The American Society of Landscape Architects, 1735 New York Avenue, N.W. , Washington, D.C. 20006.

Art and Artists. Subject bibliography #107, available from U.S. Government Printing Office, Washington, D.C. 20402. Free.

Artist's Market: Where and How to Publish Your Graphic Art. Edited by Susan Connor, Writer's Digest Books, Cincinnati, Ohio, 1987.

Twenty-five hundred places to sell art for ads, albums, cards,---.

Association of Medical Illustrators, 2692 Huguenot Springs Road, Midlothian, Virginia 23113. Ask for *Medical Illustration*.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Account Executive	450
Animation Artist	215
Architect	210
Commercial Artist	4
Fashion Designer	185
Landscape Architect	216
Merchandise Displayer	375
Photographer	51
Technical Illustrator	53

Career Discovery Program, Harvard Graduate School of Design, Gund Hall L-37, Cambridge, Massachusetts 02138. Ask for information on a summer trial program for students interested in architecture, landscape architecture, or city planning.

Career Opportunities in Art by Susan H. Haubenstock and David Joselit. Facts on File Publications, New York, 1988.

Work in art and art-related fields--museums, journalism, business, etc. Duties, advancement skills, tips on entry,---. See appendixes for schools and sources of information and education funding.

Careers in Art by Gerald F. Brommer and Joseph A. Gatto. Davis Publications, Inc., Massachusetts, 1985.

Jobs and related jobs, helpful personal qualities,---. See listings of schools and specialized curricula offered.

Design Career: Practical Knowledge for Beginning Illustrators and Graphic Designers by Stephen Heller and Lita Talarico, Van Nostrand Reinhold Company, New York, New York, 1987.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Fine Arts and Communications Majors.*

Director, University of Michigan Career Planning and Placement, 3200 Student Activities Building, Ann Arbor, Michigan 48109. Ask for *Careers in Commercial Art.*

Electronic Art Association, P.O. Box 170, Salem, New Hampshire 03079. Ask for information about use of computers in graphic design.

Fashion Institute of Technology (FIT), Career Counseling and Placement Department, 227 W. 27 Street, New York, New York 10001. Ask for career information about specific areas of interest.

Getting Into Advertising: A Career Guide by David Laskin. Ballantine Books, New York, 1986.
How various areas of industry work, types of jobs, prominent companies, contacts.

Getting Into Fashion by Melissa Sones, Ballantine Books, New York, New York, 1984.
Jobs concerned with various aspects of fashion, including--design, production, management, retailing. Characteristics, duties, pluses/minuses of jobs tied in to interviews with people employed in these areas.

Graphic Artists Guild, 11 W. 20 Street, New York, New York 10011. Ask for information on educational programs concerned with computer applications in graphic design.

Guild of Natural Science Illustrators, P.O. Box 652, Ben Franklin Station, Washington, D.C. 20044. Ask for *Careers in Scientific Illustration.*

Monadnock Paper Mills, Bennington, New Hampshire 03442. Ask for *Mix and Match*--for persons considering a career in graphic arts.

Museum Reference Center, Office of Museum Programs, Arts and Industries Building, 900 Jefferson Drive, S.W., Room 2235, Smithsonian Institution, Washington, D.C. 20560. Ask for *Museum Studies Programs in the United States and Abroad.*

National Architectural Accrediting Board, 1735 New York Avenue, N.W., Washington, D.C. 20006. Ask for list of accredited programs in architecture.

National Retail Merchants Association, 100 W. 31 Street, New York, New York 10001. Ask for career information.

Occupational Outlook Handbook Reprint: "Communications, Design, Performing Arts, and Related Occupations." No. 2300-9.

Opportunities in Fashion by Roslyn Dolber, VGM Career Horizons, National Textbook Company, Illinois, 1986. (See the appendix for descriptions of educational programs.)

Retailing Careers by Roslyn Dolber, VGM Career Horizons, Illinois, 1989.
Characteristics of all aspects of retailing (store and non-store), career opportunities, schools offering training, advice on achieving your goal.

School of Visual Arts, 209 E. 23 Street, New York, New York 10010. Ask for: *Profiles in the Arts* (exceptional work of physically handicapped persons).

Portfolio #10 - *Careers in Illustration*.

School of Visual Arts Guide to Careers by Dee Ito. School of Visual Arts Press, Ltd./McGraw Hill Book Company, New York, 1987.

Video, fine arts, graphic design,---. What's needed to work in field--advantages/disadvantages, education.

The Society of Naval Architects and Marine Engineers, 601 Pavonia Avenue, Jersey City, New Jersey 07306.

Writer's Digest School, 9933 Alliance Road, Cincinnati, Ohio 45242. Ask for *Jobs and Opportunities for Artists and Craftworkers*.

BIOLOGY

Life Science

Biology is the study of the phenomena of life, the processes that make it possible, and the myriad forms that life takes. A student may choose to specialize in cell biology (including gene splicing), environmental biology--aquatic biology or radiation biology, for example--microbiology, botany, zoology, or human physiology and anatomy.

Courses in chemistry, physics, and mathematics are required. For research, a Ph.D. degree is needed. Students interested in graduate study should check the availability of teaching assistantships and research fellowships to pay expenses. A bachelor's degree prepares for such work as laboratory assistant, technician, or inspector; but openings at this level tend to be competitive, and it is wise to seek out opportunities for honing skills in technical writing, data processing, biometrics (statistics), and laboratory techniques.

Biology has practical applications in agriculture, forestry, and health sciences; but specialized courses are needed for these fields. The student who plans to grow and sell crops, for example, needs to study horticulture, agronomy, agricultural entomology, agribusiness, and other subjects to be found in an agricultural college. Similarly, the student interested in a health field needs specialized training. It is helpful, if possible, to decide early and get started in these disciplines before graduation. Since no school can offer training in all possible directions, a choice of field sometimes involves a change in school.

Biology is often combined with other subjects to form double majors: with communications, for technical writing; with chemistry (biochemistry), for research into the chemical interactions that produce life; with geology, for paleontology (used in oil prospecting); or with one of the social sciences, such as psychology, anthropology, or archaeology. A new field, sociobiology, combines the disciplines of biology and sociology to investigate the influence of biological drives on human culture.

Biological and social sciences are interrelated. Both seek answers to social and ethical issues, such as:

> How can we keep our environment liveable and prevent the extinction of irreplaceable species?
>
> How can we control overpopulation, prevent hunger and starvation?
>
> How can housing and domestic relations be improved to better meet human needs, including the needs of children?
>
> How can we safely dispose of waste, including radioactive waste?
>
> How can we kill insect pests without harming desirable life, including our own?
>
> What causes criminal behavior and what can we do about it?
>
> How can we prevent hereditary disease?
>
> When can life-support systems conscionably be removed from a terminally ill patient?
>
> What are our biological limitations? How can we adjust to new technology, including space travel?

MARKETABLE SKILLS
BIOLOGY MAJORS

- Managing natural resources
- Supplying the environmental conditions needed for plant or animal growth
- Caring for laboratory animals
- Improving industrial methods for processing food, wood, cotton, or biological pharmaceuticals
- Improving methods for storing food
- Testing the quality of biological products and identifying bacterial contaminants
- Identifying species of plants, fish, insects, or other life
- Analyzing blood or other body fluids to obtain clinical information
- Predicting the effects of chemical pollutants or radiation on life forms
- Understanding and expressing complex scientific and technical information
- Using scientific instruments and equipment, including microscopes, dissecting tools, and computers
- Preparing biological specimens for study or display
- Gathering and interpreting scientific data about wildlife or human populations
- Conducting experiments to obtain new information about the nature of life
- Using knowledge of life sciences to solve problems in industry, agriculture, forestry, medicine, or space exploration

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING PRODUCT QUALITY	FOOD TESTER	029.361-014	Helpful: courses in microbiology	mfrs of food products
	CLOTH TESTER	029.381-010	______	garment & textile mfrs
	LABORATORY ASSISTANT	029.381-014	______	textile mfrs & processors
	WOOD TECHNOLOGIST	040.061-062	courses in wood technology or forestry (minimum)	mfrs of wood & paper products
	LABORATORY TECHNICIAN, ARTIFICIAL BREEDING	040.361-010	courses in microbiology	agricultural labs, artificial-breeding distributors
	SEED ANALYST	040.361-014	______	seed suppliers
PROTECTING HEALTH AND ENVIRONMENT	ENVIRONMENTAL ANALYST AIR POLLUTION ANALYST SOILS ANALYST WATER-QUALITY ANALYST	029.081-010	Helpful: courses in meteorology, engineering, public administration, sociology, economics, environmental or urban studies Preferred: graduate degree in science or engineering	govt agencies, industries with pollution problems (as utilities, mines)
	AIR ANALYST	012.261-010	______	industries, govt
	DAIRY TECHNOLOGIST	040.061-022	courses in microbiology Helpful: courses in economics	cheese, ice cream, & milk processors

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	INSPECTOR, WATER-POLLUTION CONTROL	168.267-090	bachelor's degree in environmental science, chemistry, biology, or closely related environmental discipline	Federal, State and local regulatory agencies; public health agencies
	SOIL SCIENTIST	040.061-058	courses in microbiology, agronomy & soil science, geology, agriculture or forestry	govt agencies, universities
	HYDROLOGIST	024.061-034	Helpful: courses in forestry, meteorology, geology, agriculture, engineering	govt agencies; industrial, research, & consulting firms
	CHEMIST, POLLUTION CONTROL environmental chemist	022.061-010	on-the-job training	govt agencies, industrial firms having pollution problems, private consulting firms, universities, research organizations
	CHEMIST, WATER PURIFICATION	022.281-014	courses in microbiology; on-the-job training	govt (local)
	CHEMIST, WASTEWATER-TREATMENT PLANT	022.261-022	bachelor's degree in chemistry, biochemistry, microbiology Helpful: coursework in instrumentation For Advancement: certification	govt (local)

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	INDUSTRIAL HYGIENIST	079.161-010	courses in biochemistry, physiology Helpful: certification by American Board of Industrial Hygiene For Advancement: master's degree in public health or industrial hygiene	govt agencies, industrial firms
	ENVIRONMENTAL EPIDEMIOLOGIST	041.167-010	master's degree or Ph.D. from a school of public health	private industry & govt
	VECTOR CONTROL ASSISTANT	049.364-014	______	State or local public health agencies
	SANITARIAN environmental hygienist environmental health specialist	079.117-018	courses in microbiology, biochemistry Helpful: specialized courses in environmental health or graduate degree in public health	govt health agencies
	FOOD TECHNOLOGIST	041.081-010	advanced degree in food technology	mfrs of food products
	PUBLIC-HEALTH MICROBIOLOGIST	041.261-010	advanced degree in microbiology	govt agencies
	MEDICAL TECHNOLOGIST	078.361-014	specialized courses in medical technology including 1 year of clinical practice.	hospitals, clinical labs, blood banks

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	CHEMIST, CLINICAL CHEMIST, PHARMACEUTICAL	041.061-026	advanced degree in biochemistry	medical-research labs, pharmaceutical companies
	PHARMACOLOGIST toxicologist	041.061-074	Ph.D. in pharmacology	pharmaceutical companies, drug-research programs, medical centers, hospitals, govt agencies, universities, private research foundations
	PHARMACIST	074.161-010	specialized professional course at school of pharmacy (5 to 6 years, instead of 4); pass test for State license	pharmacies, hospitals, research & mfg organizations, govt
	HORTICULTURAL THERAPIST	076.124-018	B.S. horticultural therapy Helpful: voluntary registration	public & private facilities for disabled, convalescent homes, juvenile centers, schools & training centers for mentally retarded, psychiatric hospitals, & general-care hospitals
	CARDIOPULMONARY TECHNOLOGIST	078.362-030	1,000 hours of intensive clinical on-the-job training Helpful: voluntary certification & registration	hospitals
	RADIATION-THERAPY TECHNOLOGIST	078.361-034	24-month program in radiography; certification is required by some States	hospitals

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	PULMONARY-FUNCTION TECHNICIAN	078.262-010	1,000 hours of intensive clinical on-the-job training Helpful: voluntary certification or registration	hospitals
	PERFUSIONIST	078.362-034	1 - 2 years training in accredited program Preferred: certification	hospitals, surgeons, or professional health corporations (work always takes place in hospital setting regardless of employer)
	FOOD AND DRUG INSPECTOR	168.267-042		govt
	PARK RANGER	169.167-042		govt
	URBAN PLANNER land planner, regional planner	199.167-014	Preferred: 1-year master's degree in planning or in public administration	local govt
PROTECTING LEGAL RIGHTS	CRIMINALIST crime-laboratory analyst	029.281-010	courses in biochemistry, electronics; knowledge of mechanics & firearms; 1-year on-the-job training Preferred: lab experience or master's degree	local, county, & State police labs; Federal Bureau of Investigation in Washington, D.C.
	patent examiner			U.S. Patent Office, Department of Commerce, Washington, D.C.

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
CARING FOR PLANTS AND ANIMALS	AGRONOMIST	040.061-010	courses in agronomy (at agricultural college)	farm organizations, govt experimental stations, agricultural colleges
	FORESTER	040.061-034	degree in forestry with practical outdoor experience	sawmills, lumber companies, mfrs of paper & particleboard, govt agencies, forest consulting firms, universities, water companies, strip-mining companies
	HORTICULTURIST	040.061-038	degree in horticulture	nurseries, botanical gardens, universities, parks, govt
	RANGE MANAGER	040.061-046	degree in range management or forestry	govt agencies, universities, cattle ranches
	PLANT BREEDER	041.061-082	advanced degree in botany or horticulture with specialization in plant genetics	nurseries, botanical gardens, research labs
	PLANT PATHOLOGIST	041.061-086	courses in horticulture, microbiology, entomology mycology Preferred: advanced degree	nurseries, botanical gardens, universities

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
CARING FOR PLANTS AND ANIMALS	MANAGER, FISH HATCHERY fish culturist	180.167-030	driver's license; at least 1 year of on-the-job training in a fish hatchery For Advancement: graduate degree in fish biology	govt hatcheries (State & Federal), private hatcheries, research labs, aquariums
	ANIMAL BREEDER DOG BREEDER MOUSE BREEDER RABBIT BREEDER	410.161-010	Helpful: courses in genetics, animal nutrition	self-employment
	CANARY BREEDER	411.161-010		
	POULTRY FARMER	411.161-018		
	BEEKEEPER	413.161-010		
	REPTILE FARMER	413.161-014		
	VETERINARIAN	073.101-010	graduation from 4-year college of veterinary medicine following 3 to 4 years preveterinary course; pass exam for State license (Check with veterinary schools on entrance requirements.)	animal hospitals, govt agencies, private practice, zoos, horse farms, research labs
	LABORATORY ASSISTANT, ZOO (Assists zoo veterinarian.)	073.361-014	enjoy working with animals, able to be meticulous in following procedures & to work calmly under stress	large zoos & aquariums which have on-site medical facilities & employ a full-time veterinarian

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PREPARING AND CONSERVING SPECIMENS	TAXIDERMIST	199.261-010	museum apprenticeship & courses in museography (exhibit techniques) or on-the-job training as helper in commercial taxidermy studio	museums, taxidermy studios or self-employment
	MUSEUM TECHNICIAN	102.381-010		museums, universities
	DOCUMENT RESTORER	979.361-010	courses in photograpy, art history; museum internship	museums, libraries, archives, film collections
	RESTORER, PAPER AND PRINTS	109.361-010		
	BIOLOGY SPECIMEN TECHNICIAN	041.381-010	courses in botany, embryology, anatomy	biological supply houses
	HEBARIUM WORKER	041.384-010	courses in botany, botanical taxonomy	herbariums at botanical gardens, arboretums, science museums, & university botany depts
	PALEONTOLOGICAL HELPER	024.364-010		museums, universities
RESEARCHING AND ASSISTING IN RESEARCH	STATISTICIAN, APPLIED biometrician DEMOGRAPHER	020.167-026	courses in statistics & computer science	industries & organizations conducting research, govt agencies
	PROGRAMMER, ENGINEERING AND SCIENTIFIC	020.167-022	programing experience or on-the-job training	research labs

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING AND ASSISTING IN RESEARCH	FIBER TECHNOLOGIST	040.061-026	courses in biochemistry, botany (minimum)	textile companies
	CHEMICAL-LABORATORY TECHNICIAN	022.261-010	________________	chemical industries, labs
	BIOLOGICAL AIDE	049.384-010	________________	biological & agricultural labs
	LIBRARIAN, SPECIAL LIBRARY science librarian MEDICAL LIBRARIAN	100.167-026	1-year master's degree in library science	public, hospital, university, & industrial libraries
	RESEARCH ASSOCIATE	109.067-014	master's degree; usually completion of academic requirements for Ph.D.	museums, zoos, botanical gardens usually associated with colleges or universities; colleges & universities; govt
TEACHING AND COMMUNICATING	TEACHER, SECONDARY SCHOOL high school biology or hygiene teacher	091.227-010	certification with State dept of education; master's degree, in some States, after specified period of time.	public & private high schools
	PUBLIC HEALTH EDUCATOR	079.117-014	courses in physiology, bacteriology, educational & social psychology, cultural anthropology, sociology Preferred: master's degree in health education	govt agencies, international health programs, community & regional planning councils, public housing projects, hospitals, clinics, industrial firms, agricultural extension services, colleges & universities

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING AND COMMUNICATING	TEACHER (museum)	099.227-038	degree in subject related to museum's or zoo's emphasis, good communication skills	museums, zoos & similar establishments
	WRITER, TECHNICAL PUBLICATIONS technical writer PROCESS-DESCRIPTION WRITER	131.267-026	____________	publishers of scientific journals; research labs
	WRITER, PROSE, FICTION AND NONFICTION (outdoor, environmental, or pet care)	131.067-046	typing, samples of work	magazines, book publishers, or freelance
	GRAPHIC DESIGNER (specializing in technical advertising)	141.061-018	samples of work; courses in typography, layout	advertising agencies, publishers, graphic arts studios
	ILLUSTRATOR, MEDICAL AND SCIENTIFIC	141.061-026	portfolio of work; master's degree in medical illustrating for medical work	publishers of scientific journals & books, universities, pharmaceutical firms, research organizations, museums
	PHOTOGRAPHER, SCIENTIFIC	143.062-026	courses or experience in photography; samples of work	museums, archives, hospitals, industrial labs, research organizations, advertising agencies, commercial photographic studios

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING AND COMMUNICATING	EXHIBIT ARTIST	142.261-010	art courses, portfolio, photography skills, ability to fashion objects from clay, plastic wood, fiberglass or paper-mache´	science, natural history, industrial & multidiscipline museums, National Park Service, some art, history museums, zoos, & botanical gardens; private employers specializing in this service
	EXHIBIT DESIGNER	142.061-058	bachelor's degree &, sometimes, master's degree in art with emphasis on design, museography, or graphics; degree in architecture, engineering, or museum studies may be a requirement or acceptable alternative, depending upon institution	museums, planetariums, some zoos & botanical gardens, commercial exhibit-fabrication firms, National Park Service, other Federal, State & local agencies
SELLING	SALES AGENT, PEST CONTROL SERVICE	251.357-018		exterminators
	SALESPERSON, HORTICULTURAL AND NURSERY PRODUCTS	272.357-022		nurseries, greenhouses, department stores
	SALES REPRESENTATIVE, ANIMAL-FEED PRODUCTS	272.357-010		wholesale distributors of livestock & poultry-feed products
	SALES AGENT, PETS AND PET SUPPLIES	277.357-042		pet stores, aquarium-stock companies

MAJOR: BIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALESPERSON, SURGICAL APPLIANCES	276.257-022	________	medical-supply firms
	SALESPERSON, HEARING AIDS	276.354-010	________	hearing-aid centers
	SALES REPRESENTATIVE, DENTAL AND MEDICAL EQUIPMENT AND SUPPLIES	276.257-010	________	medical & dental suppliers
	SALES REPRENTATIVE, VETERINARIAN SUPPLIES	276.357-018	________	veterinary suppliers
	SALES REPRESENTATIVE, FOOD PRODUCTS	260.357-014	________	food wholesalers
	SALES REPRESENTATIVE, SAFETY APPAREL AND EQUIPMENT	261.357-026	________	protective-device wholesalers
	SALES REPRESENTATIVE, CHEMICALS AND DRUGS	262.357-010	________	chemical & pharmaceutical companies
	SALES REPRESENTATIVE, RAW FIBERS	261.357-030	________	raw-fiber wholesalers

MORE INFORMATION

American Association of Botanical Gardens and Arboreta, P.O. Box 206, Swarthmore, Pennsylvania 19081.

American Association of Zoological Parks and Aquariums, Oglebay Park, Wheeling, West Virginia 26003. Ask for *Zoo and Aquarium Careers*.

American Fisheries Society, 5410 Grosvenor Lane, Bethesda, Maryland 20814. Ask for Career Guide 2000, *Fisheries, Forestry, Wildlife and Related Occupations*. Fee.

American Physiological Society, 9650 Rockville Pike, Bethesda, Maryland 20814. Ask for *Careers in Physiology* and a list of institutions offering degrees in physiology.

American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, Minnesota 55121. Ask for *Careers in Horticulture*.

American Society of Agronomy, 677 South Segoe Road, Madison, Wisconsin 53711. Ask for *Careers in Agronomy, Crop Science, Soil Science*.

American Society of Animal Science, 309 W. Clark Street, Champagne, Illinois 61820. Ask for *A Career in Animal Sciences*.

American Society for Horticultural Science, 701 No. St. Asaph Street, Alexandria, Virginia 22314. Ask for *Careers in Horticulture*.

American Society of Ichthyologists and Herpetologists, Florida State Museum, University of Florida, Gainesville, Florida 32611. Ask for *Career Opportunities for the Ichthyologist or for the Herpetologist*.

American Society of Zoologists, 104 Sirius Circle, Thousand Oaks, California 91360. Ask for *Careers in Animal Biology*.

Botanical Society of America, Biology Department, Indiana University, Bloomington, Indiana 47405. Ask for *Careers in Botany*.

Careers in Veterinary Medicine by Jane Caryl Duncan. The Rosen Publishing Group, Inc., New York 1988.

Careers Working With Animals by Guy R. Hodge, The Humane Society of the United States, Washington, D.C., 1979, (See particularly the appendixes with bibliographies and a list of colleges offering courses.)

Eastman Kodak Company, Personnel Resources, 343 State Street, Rochester, New York 14650-1139, Attention: Mr. Jack Murtz.
Ask for:

Career Decisions: The Art of Matchmaking
Health and Environment Laboratories
More Than Meets the Eye.

Ecological Society of America, Center for Environmental Studies, Arizona State University, Tempe, Arizona 85287. Ask for *Careers in Ecology*.

National Wildlife Federation, 1412 16 Street, N.W., Washington D.C. 20036. Ask for *Conservation Careers*.

Society for Range Management, 1839 York Street, Denver, Colorado 80206. Ask for *Careers in Range Science and Range Management*.

U.S. Fish and Wildlife Service, U.S. Department of the Interior, 18 and C Streets, N.W., Washington, D.C. 20240.

The Wildlife Society, 5410 Grosvenor Lane, Bethesda, Maryland 20814. Ask for *A Wildlife Conservation Career for You*.

BUSINESS AND PUBLIC ADMINISTRATION

Business administration develops the techniques needed to plan, organize, and keep institutions, businesses, and industries running. Students learn how to bring together workers and raw materials in order to produce, sell, and distribute goods and services.

Various majors are possible within administration: management, personnel, production, marketing, finance, business economics, accounting; however, all business and public administration students need to know something about all of these, as well as political science, industrial psychology, sociology, business law, mathematics, statistics, and computer science. Much of what administration students learn is applicable to any undertaking, but study needs to be supplemented by on-the-job training, either before or after graduation.

A limited number of schools offer majors in hotel and restaurant administration, health and hospital administration, and in areas of agribusiness. Also, students can select a double minor in a field related to a business that interests them, such as art.

The field of administration can be entered at either the graduate or undergraduate level. Graduate schools of administration are open to students who majored in other fields. Engineers, for example, may obtain a master's degree in business or public administration in order to advance in their chosen line of work.

In administration, students learn how to plan and direct courses of action that affect thousands--or millions--of people. The field appeals to students who want to take charge and make things happen.

MARKETABLE SKILLS

BUSINESS AND PUBLIC ADMINISTRATION MAJORS

- Setting up a structure, assigning responsibilities, coordinating efforts, establishing workflow and workloads, bringing together and organizing all that is needed to run a business
- Planning and budgeting: projecting future needs for equipment, raw materials, personnel, and training; working with projected costs and funds and planning a strategy for the future
- Reviewing programs and evaluating them quantitatively
- Setting up a feedback system to measure performance periodically
- Setting standards, priorities, and goals; weighing alternatives and arriving at decisions
- Using techniques for establishing good working relationships, high morale, and motivation; providing an environment in which workers can produce
- Designing accounting and data-collection systems that provide complete financial records while maintaining confidentiality
- Interpreting complex financial and bank terminology, data, statistical reports, credit regulations, charts, and mathematical formulas
- Investigating the financial stability of a client by analyzing business records
- Determining the risk involved in making an investment or lending money
- Determining unit cost, setting prices or rates and schedules, and evaluating the profitability of a product or service
- Using knowledge of tax laws and structures to advise on the tax advantages or disadvantages of financial undertakings
- Preparing tax returns and financial reports
- Using a variety of instructional methods, such as video, discussion and lecture, role playing, simulation, and gaming techniques; assessing performance before and after training
- Develop training materials, including computer-managed materials and films or videotapes; revising programs and educational materials based on feedback
- Researching consumer needs and demand for a product
- Evaluating ideas for new products or services and for new types of packaging
- Planning sales strategy and selling

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING BUSINESS ACTIVITIES	MANAGEMENT TRAINEE (Executive training programs with opportunities to learn work in different depts for 6 months to 1 year & with eventual assignment to one dept--as warehouse inventory, marketing, credit, or personnel.)	189.167-018	Helpful: business or leadership experiences	banks & other financial institutions; utilities; insurance, oil, food, & cosmetic companies; chain & retail stores; mfrs; service businesses; govt; hospitals; educational institutions; nonprofit organizations
	MANAGER, CREDIT AND COLLECTION manager, accounts receivable	168.167-054	accounting skills Helpful: on-the-job training in a commercial bank	retail stores, banks, credit unions, mfrs, wholesalers, wherever credit is used
	ECONOMIC DEVELOPMENT COORDINATOR	188.117-102	courses in public relations or communications	local govt
	entrepreneur	________	Helpful: experience as a trainee in a similar business	your own business
MANAGING HUMAN RESOURCES	ADMINISTRATIVE ASSISTANT personnel trainee	169.167-010	________________	businesses, industries, govt
	EMPLOYMENT INTERVIEWER (possibility of eventual promotion to employment manager)	166.267-010	________________	industrial, commercial, or service establishments; govt
	JOB ANALYST (advancement possibility--occupational analyst)	166.267-018	________________	industrial, commercial, or service establishments; govt

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING HUMAN RESOURCES	EQUAL-OPPORTUNITY REPRESENTATIVE	168.167-014	____	govt
	affirmative-action officer or coordinator		____	large firms & institutions
	TRAINING REPRESENTATIVE training specialist	166.227-010	____	industrial, commercial, service establishments, or govt
	MANAGER, LABOR RELATIONS INDUSTRIAL-RELATIONS REPRESENTATIVE	166.167-034	master's degree in industrial or labor relations For Advancement: law degree	business & industrial firms, labor-relations consulting firms serving either labor or management, govt
	PERSONNEL RECRUITER	166.267-038	courses in personnel management, communications, & public relations. Helpful: good communication skills	most business establishments, govt
	RECRUITER	166.267-026	Helpful: courses in personnel management, communications, public relations; a few years service in military	military services
	EMPLOYEE RELATIONS SPECIALIST	166.267-042	undergraduate degree in labor relations or human resources administration	commercial & industrial firms, govt

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING HUMAN RESOURCES	HUMAN RESOURCE ADVISOR	166.267-046	graduate degree in human resources administration or labor relations	human resources consulting firms
	EQUAL OPPORTUNITY OFFICER	168.267-114	courses in human resources administration	commercial & industrial firms, govt
ACCOUNTING	ACCOUNTANT general accountant office manager ledger accountant	160.167-010	ability to inspire confidence; major in accounting; State certification (registration as CPA)	private commercial & industrial firms, nonprofit organizations, educational institutions, accounting firms, govt, almost any type of organization or self-employment
	ACCOUNTANT, COST	160.167-018		
	ACCOUNTANT, MACHINE PROCESSING systems & procedures accountant (Designs & installs computerized accounting systems.)	160.167-026		
	AUDITOR BANK EXAMINER	160.162-014		
	AUDITOR, INTERNAL junior internal auditor	160.167-034		
	BURSAR	160.167-042	____	colleges, universities

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ACCOUNTING	REVENUE AGENT	160.167-050		govt
	CREDIT COUNSELOR BUDGET CONSULTANT	160.207-010	(Check on State license requirements.)	financial institutions
	CONSULTANT	189.167-010	advanced degree	accounting or consulting firms, businesses, industries
	ESTIMATOR	160.267-018	knowledge of employer's product or service	mfrs, builders, service companies
	SPECIAL AGENT, FBI	375.167-042	major in accounting or a law degree, meet physical requirements Helpful: fluency in a foreign language	U.S. Department of Justice
ANALYZING DATA	FINANCIAL ANALYST portfolio analyst security analyst	020.167-014	sponsorship & training by brokerage firms, followed by exam for certification	financial institutions, insurance companies
	COMMODITY ANALYST	020.167-014	master's degree in economics, agricultural economics, or in business administration with a specialty in finance or operations research	brokerage houses dealing in commodities futures

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING DATA	STATISTICIAN, APPLIED	020.167-026	Helpful: experience in computer programing For Advancement: graduate degree in statistics or operations research	mfg, finance, & insurance companies, govt
	MARKET-RESEARCH ANALYST pollster public opinion surveyor market forecaster	050.067-014	Helpful: courses in political science, marketing, psychology For Advancement: master's degree in business administration, marketing research, statistics, political science, or psychology	mfg companies, independent advertising agencies, research organizations, universities, govt
	MANAGEMENT ANALYST I systems analyst	161.167-010	master's degree in business administration, experience in computer programing	private businesses & industries, consulting firms
	BUDGET ANALYST	161.267-030	major in accounting or finance with a substantial number of accounting courses Preferred: CPA	govt agencies
	ACTUARY	020.167-010	Helpful: advanced degree in statistics	insurance companies

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING DATA	OPERATIONS RESEARCH ANALYST	020.067-018	advanced mathematics courses; graduate study in operations research or industrial engineering Helpful: courses in physical sciences, quantitative economics	large corporations, govt agencies
	CREDIT ANALYST	191.267-014	____	mfrs, financial institutions, department stores
	LOAN OFFICER	186.267-018	____	
	APPRAISER, AIRCRAFT APPRAISER, REAL ESTATE APPRAISER, OIL AND WATER APPRAISER, TIMBER APPRAISER	188.167-010 191.287-010	knowledge of a field, such as aeronautics, business machines, real estate, or forestry	mfrs; real estate, oil & logging companies; insurance firms; lending agencies; courts; lawyers
	URBAN PLANNER	199.167-014	Preferred: 1-year master's degree in community planning Helpful: courses in architecture	local govts
TEACHING	TEACHER, JUNIOR COLLEGE teacher of accounting, distributive education, retailing, data processing, business law, business mathematics, consumer economics	090.227-010	master's degree in business administration, accounting, or economics; or registration as a CPA	community colleges

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING	business writer		Helpful: communications courses	business magazines, businesses & industries
	business communicator (Communicates information between management & employees or the public.)		Helpful: communications courses, skill in producing audiovisual materials	businesses & industries
MARKETING	SALES REPRESENTATIVE, ADVERTISING	254.357-014		business magazines
	SALES REPRESENTATIVE, BUSINESS COURSES	259.257-010		business schools
	SALES REPRESENTATIVE, COMPUTERS AND EDP SYSTEMS	275.257-010		electronic data processing firms
	INTERNATIONAL-TRADE ECONOMIST international-trade specialist	050.067-010	master's degree in economics or marketing	multinational companies exporters, importers, govt
	CONTRACT ADMINISTRATOR	162.117-014		industries
	FIELD CONTRACTOR	162.117-022	experience or courses in agriculture	dealers in agricultural products
	BUYER, ASSISTANT	162.157-022	availability to travel	chain department stores

MAJOR: BUSINESS AND PUBLIC ADMINISTRATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MARKETING	PURCHASING AGENT industrial buyer	162.157-038	Preferred: master's degree in business administration Helpful: courses in purchasing; industrial experience or courses in engineering, science, or other fields related to the industry	industries
	SALES AGENT, SECURITIES	251.157-010	training under sponsorship of stock brokerage firms, followed by exam for State license	stock brokerage firms
	commodity futures broker registered commodity representative	————	2 years on-the-job training at a large brokerage house Helpful: courses in agricultural economics, finance, commodities law	brokerage houses dealing in commodities futures
	SALES AGENT, FINANCIAL-REPORT SERVICE	251.357-014	————	publishers of financial reports & credit-rating books, computerized information services

Note: This list is a sampling of opportunities. In almost any conceivable type of human organization, there is a need for people to plan, organize, direct, coordinate, and control.

MORE INFORMATION

American College of Health Care Executives, 840 North Lake Shore Drive, Chicago, Illinois 60611. Ask for *Your Career in Health Services Administration*.

American Financial Services Association, 1101 14 Street, N.W., Washington, D.C. 20005.

American Hotel and Motel Association, 888 7th Avenue, New York, New York 10106. Ask for information on careers and scholarships in hotel management.

American Institute of CPA's (AICPA), 1211 Avenue of the Americas, New York, New York 10036. Attention: Order Department, P.O. Box 1003. Ask for:

Education Requirements for Entry Into the Accounting Profession
Taxation As A Professional Career
What Does A CPA Do? A Guide to CPA Service. Fee.
Why Graduate School for Careers in Professional Accounting?
Take the CPA Challenge

Also ask about availability of scholarships for members of minority groups who are accounting majors and also residents and citizens of the United States.

American Marketing Association, 250 S. Wacker Drive, Suite 200, Chicago, Illinois 60606. Ask for *Careers in Marketing*.

American Management Association, 135 West 50 Street, New York, New York 10020.

American Society for Personnel Administration, 606 N. Washington Street, Alexandria, Virginia 22314. Ask for *Careers in Personnel and Industrial Relations*.

American Society for Training and Development, P.O. Box 1443, 1630 Duke Street, Alexandria, Virginia 22313.

American Textile Manufacturers Institute, 1801 K Street, N.W., Suite 900, Washington, D.C. 20036. Ask for current career information.

Association of University Programs in Health Administration, 1911 N. Fort Meyer Drive, Suite 503, Arlington, Virginia 22209.

American Woman's Society of Certified Public Accountants, 111 E. Wacker Drive, Suite 600, Chicago, Illinois 60601. Ask for *The Development and Attainment of Accounting Career Goals* and *Accounting: A Career for Women*.

Business and Management Jobs (Updated annually). Edited by Christopher Billy and Donna Lee Snyder. Peterson's Guides, New Jersey.

Employer profiles include degrees sought in various disciplines (entry and higher) and plans for entry hire for current year.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Accountant	1
Hotel and Motel Managers	114
Buyer (Retail Trade)	118
Credit and Collection Manager	132
Securities Broker	252
Economist	253
Market-Research Analyst	291

Careers in Business by Lila B. Stair and Dorothy Donkowski. National Textbook Company, Illinois, 1986.

Career areas include: human-resource development, materials management, insurance, and others--plus trends, career mobility, contacts.

Careers in Marketing by David W. Rosenthal and Michael A. Powell, Prentice-Hall, Inc., New Jersey, 1984.

Jobs in marketing, product management, marketing research, retailing. Descriptions include pluses and minuses of jobs, lines of promotion, trends, and other information.

Club Managers Association of America, 7615 Winterberry Place, Bethesda, Maryland 20817. Ask for *Club Management: A Path to a Rewarding Future.*

Department of Finance, Northern Illinois University, Dekalb, Illinois 60115. Ask for Job *Opportunities for Finance Graduates.*

The Educational Institute of the American Hotel and Motel Association, 1407 S. Harrison Road, Suite 310, East Lansing, Michigan 48823. Ask for information on educational programs and certification requirements for hotel management.

Healthcare Financial Management Association, 1900 Spring Road, #500, Oakbrook, Illinois 60521. Ask for *Find a Career that Counts in Hospital Financial Management.*

INTAC tape series (an information system on majors and careers), Northern Illinois University. Phone 815/753-0414 and ask to hear one of the following tapes:

801	*Accountancy*
802	*Business Education in the Area of Teaching*
868	*Business Education with an Emphasis in Distributive Education*
803	*Finance*
804	*Management*
805	*Marketing*
806	*Marketing and Entrepreneurship Education*
807	*Office Administration*
808	*Operations Management*

The Institute of Internal Auditors, 249 Maitland Ave., Altamonte Springs, Florida 32701. Ask for *Your Future in the Field of Internal Auditing.*

International Association of Business Communicators, 870 Market Street, Suite 940, San Francisco, California 94102. Ask for *Business Communication as a Career.*

Military Operations Research Society, 101 S. Whiting Street, Suite 202, Alexandria, Virginia 22304. Ask for information on training and career opportunities.

National Association of Accountants, 10 Paragon Drive, Montvale, New Jersey 07645. Ask for *Accounting as a Career*.

National Association of Bank Women, Inc., 500 N. Michigan Avenue, Suite 1400, Chicago, Illinois 60611. Ask for the series *Careers for Women in Banking*.

National Association of Credit Management, 520 8 Avenue, New York, New York 10018. Ask for *Credit and Collections*.

National Association of Purchasing Management, 201 W. Belt Line Road, Suite D, Cedar Hill, Texas 75104. Ask for *A Golden Opportunity: Careers in Managing Purchasing and Materials*.

National Council of Beta Alpha Psi, 5717 Bessie Drive, Sarasota, Florida 33583. Ask for *Academic Careers in Accounting*.

National Society of Public Accountants, 1010 N. Fairfax Street, Alexandria, Virginia 22314.

New York/International Association of Business Communicators, P.O. Box 2025, Grand Central Station, New York, New York 10017. Ask for *Sell Yourself as a Pro-Communicator*.

Occupational Outlook Handbook Reprint: Business, Managerial, and Legal Occupations, No. 2300-2. Available from the Superintendent of Documents, GPO, Washington, D.C. 20402 or read the same material in your library.

Operations Research Society of America, Mount Royal and Guilford Avenues, Baltimore, Maryland 21202. Ask for information on training and career opportunities.

Opportunities in Retailing Careers by Roslyn Dolber. VGM Career Horizons, Illinois, 1989.
Descriptions of various career paths, suggestions for self-evaluation and for getting and keeping the job. Lists schools offering retailing programs.

CHEMISTRY

Chemistry is the study of atomic structure and transformation: how atoms combine--by rearranging their electrons--to create compounds completely different from the elements that formed them. Substances are analyzed into the elements of which all things are made. New substances are formed by combining others in new ways. The chemical industry introduces over a thousand new chemicals every year. Research chemists make new substances to order, including some that never before existed, predicting beforehand what characteristics can be expected. They prepare small amounts of the substances. Other scientists test samples. A new pharmaceutical, for example, must be widely tested for effectiveness and for possibly dangerous side effects. Chemical engineers design equipment and develop process details for large-scale economic production and packaging. Processes are tested on a small scale in a pilot plant before full-scale production begins.

Chemistry students study physics, mathematics, and engineering. Biology and geology are helpful for applications of chemistry. Chemistry is an excellent background for the study of other sciences: biology, medicine, pharmacy, nutrition, agriculture, forestry, or geology. Chemistry is essential, for example, to bacteriologists, since bacteria are identified largely by the chemistry of their metabolism (the substances they digest as food and the resulting end products).

Various specializations are possible in chemistry. Environmental chemists study the chemistry of air, soil, and water pollution. Organic chemists specialize in carbon compounds. Biochemists study the chemical reactions (involving amino acids, proteins, steroids, and enzymes) that make life possible. Clinical chemists specialize in diagnostic tests; pharmaceutical chemists, in drugs; metallurgists, in metals and alloys.

An advanced degree is needed for research; a Ph.D., for teaching in a college or university. Without an advanced degree, chemists work as assistants or technicians, doing analyses, preparing chemicals to formula, or doing quality-control work.

MARKETABLE SKILLS
CHEMISTRY MAJORS

- Preparing chemicals by combining other chemicals; developing new products for specific purposes
- Using heat, light, energy, and chemical catalysts to change substances
- Improving industrial processes; developing new, more economical methods for making chemicals
- Setting up, standardizing, and using scientific instruments and equipment
- Devising new equipment for making, analyzing, storing, or transporting chemicals
- Analyzing substances (such as ores or drugs) to discover their composition
- Analyzing biological substances, such as herbal cures or hormones, and finding ways to duplicate them artificially
- Testing products to see if they meet specifications
- Identifying contaminants in products or in the air and water
- Finding uses for chemicals, including byproducts
- Predicting what will happen when chemicals are mixed under various conditions; warning of hazards
- Using logic, scientific thinking, and knowledge of natural laws to solve problems in industry, agriculture, mining, medicine, or space

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING PRODUCT QUALITY	FOOD TESTER	029.361-014	Helpful: courses in microbiology	mfrs of food products
	CLOTH TESTER	029.381-010	________	garment & textile mfrs
	LABORATORY ASSISTANT	029.381-014	________	textile mfrs & processors
	LABORATORY TESTER CEMENT TESTER GAS TESTER PAINT-AND-VARNISH TECHNICIAN TESTER, AMMONIA SHIPPING	029.261-010	________	industrial firms
	TESTER	029.261-022	________	petroleum refineries
PROTECTING HEALTH AND ENVIRONMENT	ENVIRONMENTAL ANALYST AIR POLLUTION ANALYST SOILS ANALYST	029.081-010	courses in meteorology, biology Helpful: courses in public administration, sociology, economics, environmental or urban studies For Advancement: graduate degree	govt agencies, industries with pollution problems (as utilities, mines)
	AIR ANALYST	012.261-010	________	industries, govt
	DAIRY TECHNOLOGIST	040.061-022	courses in microbiology Helpful; courses in economics	cheese, ice cream, & milk processors

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	SOIL SCIENTIST	040.061-058	courses in microbiology, agronomy & soil science, geology, agriculture, or forestry	govt agencies, universities
	HYDROLOGIST	024.061-034	Helpful: courses in forestry, meteorology, geology, agriculture, engineering	govt agencies; industrial, research, & consulting firms
	CHEMIST, POLLUTION CONTROL environmental chemist	022.061-010	on-the-job training	govt agencies, industrial firms having pollution problems, private consulting firms, universities, research organizations
	CHEMIST, WATER PURIFICATION	022.281-014	courses in microbiology; on-the-job training	govt (local)
	CHEMIST, WASTEWATER TREATMENT	022.261-022	bachelor's degree in chemistry, biochemistry, microbiology Helpful: courses in electronic instrumentation For Advancement: certification	govt (local)
	INDUSTRIAL HYGIENIST	079.161-010	courses in biochemistry, biology, physiology Helpful: certification by American Board of Industrial Hygiene For Advancement: master's degree in public health or industrial hygiene	govt agencies, industrial firms

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	AGRICULTURAL-CHEMICALS INSPECTOR	168.267-082	knowledge of materials used in fertilizers, pesticides, & livestock remedies	State & local govt
	PESTICIDE-CONTROL INSPECTOR	168.267-098	specialization in biological sciences	Federal, State & local govt
	HAZARDOUS-WASTE MANAGEMENT SPECIALIST	168.267-086	bachelor's degree in environmental resources management, biological science, or related physical or environmental health science as well as courses in chemistry	govt agencies involved in research, regulation, inspection, & enforcement; industrial firms
	REGISTRATION SPECIALIST, AGRICULTURAL CHEMICALS	168.267-106	Helpful: knowledge of laws & regulations relating to pesticides, commercial fertilizers, agricultural minerals & related products; methods & procedures of registration & hazards	State & local govt
	SANITARIAN environmental hygienist environmental health specialist	079.117-018	courses in microbiology, biochemistry Helpful: specialized courses in environmental health or graduate degree in public health	govt health agencies
	FOOD TECHNOLOGIST	041.081-010	advanced degree in food technology	mfrs of food products

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	MEDICAL TECHNOLOGIST	078.361-014	specialized courses in medical technology including 1 year of clinical practice	hospitals, clinical labs, blood banks
	CHEMISTRY TECHNOLOGIST clinical chemistry technologist medical technologist, chemistry	078.261-010		
	CHEMIST, CLINICAL CHEMIST, PHARMACEUTICAL	041.061-026	advanced degree in biochemistry	medical-research labs, pharmaceutical companies
	PHARMACOLOGIST toxicologist	041.061-074	Ph.D. in pharmacology	pharmaceutical companies, drug-research programs, medical centers, hospitals, govt agencies, universities, private research foundations
	PHARMACIST	074.161-010	specialized professional course at school of pharmacy (5 to 6 years, instead of 4); pass test for State license	pharmacies, hospitals, research & mfg organizations, govt
	ENVIRONMENTAL EPIDEMIOLOGIST	041.167-010	master's degree or Ph.D. from a school of public health	private industry, govt, medical schools
	INSPECTOR, WATER-POLLUTION CONTROL	168.267-090	bachelor's degree in environmental science, chemistry, biology, or closely related environmental discipline	Federal, State & local regulatory agencies; public health agencies

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING WORKS OF ART	ART CONSERVATOR	102.167-010	courses in art history; master's degree in museology (museum studies)--3 years, including internship (some fellowships available with stipend)	universities, museums, conservation labs--commercial or nonprofit, large restorations, U.S. govt (as National Park Service, Smithsonian Institute)
IDENTIFYING AND TESTING	MINERALOGIST	024.061-038	courses in geology; graduate study in mineralogy	mining companies, universities, govt agencies
	ASSAYER	022.281-010	________	mining companies, govt agencies
	FORMATION-TESTING OPERATOR (Tests for oil.)	930.261-014	________	oil companies, petroleum-exploration companies
	LABORATORY ASSISTANT (Tests for oil & conditions affecting drilling operation.)	024.381-010	________	
PROTECTING LEGAL RIGHTS	CRIMINALIST crime laboratory analyst	029.281-010	courses in biochemistry, biological sciences, electronics; knowledge of mechanics & firearms; 1-year on-the-job training Preferred: lab experience or master's degree	local, county & State police labs; the Federal Bureau of Investigation in Washington, D.C.

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING LEGAL RIGHTS	patent examiner	____________	____________	U.S. Patent Office, Department of Commerce, Washington, D.C.
	PATENT ATTORNEY	110.117-026	degree in law	law offices or self-employment
RESEARCHING AND ASSISTING IN RESEARCH	METEOROLOGIST	025.062-010	1-year master's degree in meteorology	govt agencies (weather & environmental protection), consulting firms, airlines, designers of meteorological instruments, utilities, engineering & aerospace firms, radio & T.V. broadcasters, insurance companies
	MATERIALS SCIENTIST	029.081-014	advanced degree in chemistry, physics, geology, metallurgy, or engineering	industrial & research organizations, govt agencies
	FIBER TECHNOLOGIST	040.061-026	courses in biochemistry, botany	textile companies
	CHEMICAL-LABORATORY TECHNICIAN	022.261-010	____________	chemical industries, labs
	PROGRAMMER, ENGINEERING AND SCIENTIFIC	020.167-022	programming experience or on-the-job training	engineering firms, research labs
	RESEARCH ASSISTANT	199.267-034	____________	colleges & universities, foundations, govt

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING AND ASSISTING IN RESEARCH	SYSTEMS ANALYST, ELECTRONIC DATA PROCESSING	012.167-066	Helpful: extensive programming experience	firms & agencies using data processing
	INFORMATION SCIENTIST chemical information scientist (Keeps researchers informed on related work of other scientists.)	109.067-010	knowledge of Wisewesser Line Notation System for classifying chemicals Helpful: master's degree in information, library, or computer science	technical libraries, large chemical firms, research labs, universities, publishers of chemical journals & abstracts, govt agencies
TEACHING AND COMMUNICATING	TEACHER, SECONDARY SCHOOL high school chemistry, physics, mathematics, or computer-science teacher	091.227-010	certification with State department of education; master's degree--in some States after specified period of time	public & private high schools
	WRITER, TECHNICAL PUBLICATIONS technical writer PROCESS-DESCRIPTION WRITER	131.267-026	————	publishers of manuals & instruction books, chemical journals, research labs
ANALYZING DATA	OPERATIONS-RESEARCH ANALYST	020.067-018	graduate study in operations research or industrial engineering Helpful: courses in quantitative economics	large chemical companies, govt agencies
	CREDIT ANALYST (determining line of credit to chemical mfrs)	191.267-014	graduate degree in business administration	commercial banks, chemical companies

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING AND SELLING	PURCHASING AGENT industrial buyer	162.157-038	Preferred: master's degree in business administration Helpful: courses in purchasing	chemical companies
	SALES ENGINEER, CERAMIC PRODUCTS	006.151-010	____________	distributors of ceramic products
	CHEMICAL-EQUIPMENT SALES ENGINEER	008.151-010	____________	mfrs of chemical equipment
	SALESPERSON, PHOTOGRAPHIC SUPPLIES AND EQUIPMENT	277.357-050	knowledge of photographic techniques	retail & wholesale dealers in photographic equipment & chemicals
	SALES REPRESENTATIVE, ABRASIVES	274.357-010	____________	wholesale distributors of abrasives
	SALES REPRESENTATIVE, BOTTLES AND BOTTLING EQUIPMENT	274.357-014	____________	bottling-equipment wholesalers
	SALES REPRESENTATIVE, CHEMICALS AND DRUGS	262.357-010	____________	chemical & drug wholesalers
	SALES REPRESENTATIVE, CONTAINERS	274.357-026	____________	container wholesalers

MAJOR: CHEMISTRY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING AND SELLING	SALES REPRESENTATIVE, PETROLEUM	269.357-014	________________	wholesale distributors of petroleum products
	SALES REPRESENTATIVE, PRECISION INSTRUMENTS	276.357-014	________________	wholesale distributors of scientific instruments
	SALES REPRESENTATIVE, WATER TREATMENT CHEMICALS	262.357-022	________________	chemical mfrs & wholesalers

MORE INFORMATION

American Association of Colleges of Pharmacy, 1426 Prince Street, Alexandria, Virginia 22314. Ask for *Shall I Study Pharmacy?*

American Chemical Society, 1155 16 Street, N.W., Washington, D.C. 20036. Ask for:

Careers: Nontraditional
Careers in Chemistry: Opportunities for Minorities
Careers in Chemistry Today
Financial Aid for College Students: Sources of Information

American Institute of Mining, Metallurgical, and Petroleum Engineers, 345 East 47 Street, New York, New York 10017. Ask for *A Career in Metallurgy, Metallurgical Engineering and Materials Science.*

American Medical Technologists, 710 Higgins Road, Park Ridge, Illinois 60068.

American Meteorological Society, 45 Beacon Street, Boston, Massachusetts 02108. Ask for the *Challenge of Meteorology: Career Opportunities* and a list of colleges and universities.

American Society for Medical Technology, 2021 L Street, N.W., Suite 400, Washington, D.C. 20036.

ASM International, Metals Park, Ohio 44073. Ask for *A Career in Metallurgy Will Extend Your Reach.*

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Chemical Engineer	8
Medical Technologist	17
Technical Writer	138
Pharmacist	159
Sanitarian	347

Council for the Advancement of Science Writing (Communications), 4 Billingham Street, Somerville, Massachusetts 02144. Ask for *A Guide to Careers in Science Writing.*

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Physical Science Majors.*

Eastman Kodak Company, Personnel Resources, 343 State Street, Rochester, New York 14650-1139, Attention: Mr. Jack Murtz. Booklets available (single copies):

Career Decisions: The Art of Matchmaking
Excelling in Imaging and Beyond
The Future is Yours
Government Systems Division - Research and Engineering
Health and Environment Laboratories
More Than Meets the Eye

Health Careers Information, New York State Department of Health, Corning Tower Building, Room 1602, Empire State Plaza, Albany, New York 12237-0053.

The Metallurgical Society of AIME, 345 East 47 Street, New York, New York 10017.

National Oceanic and Atmospheric Administration, 14 Street and Constitution Avenue, N.W., Washington, D.C. 20230.

Soil and Water Conservation Society of America, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021. (Publishers of *Conservation Careers*. Fee.)

U.S. Civil Service Commission, Washington, D.C. 20415. Ask for *Engineering, Physical and Mathematical Sciences and Related Professions: Opportunities in the Federal Government*--published annually.

U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585. Ask for *Professional Energy Careers*.

U.S. Environmental Protection Agency, National Workforce Development Staff, 401 M Street, S.W., Washington, D.C. 20460. Ask for *Career Opportunities in the Environmental Protection Agency*.

COMMUNICATIONS

Journalism, Mass Media, Public Relations

Communications is the study of how humans transfer information and ideas--indirectly by means of mass media--and directly, between individuals or groups. Messages are communicated by means of sound effects, light, color, movement, music, words written or spoken--as well as other audio and visual means.

Depending on the school, students major in communications or in specializations encompassed by this multi-faceted field. Students may concentrate on journalism, photojournalism, broadcasting, film making, videotaping, mixed media--or new media--including holograms and laser shows--public relations, advertising, or interpersonal communication.

Interpersonal communication applies the principles and techniques of communication to personal exchanges in group and one-to-one relationships. It is helpful for conducting meetings, interviewing, recruiting, instructing, counseling, selling, and negotiating--in the world of business, labor relations, intercultural relations, or education.

Public relations depends on both mass media and interpersonal communication to promote the interests of non-profit organizations, businesses, government agencies, and individual clients such as politicians and entertainers.

Double majors combining communications with other subjects are common. The student interested in imparting information about specific subject matter may select a combination which includes a subject such as home economics, economics, agriculture, chemistry, or political science. Other double majors combine communications with marketing, visual or performing arts, English, or a foreign language.

For the student who wants to influence others, the communications major develops the skill to sway an audience and greatly expands the student's circle of influence by providing access to the mass media.

MARKETABLE SKILLS

COMMUNICATIONS MAJORS

- Writing copy that triggers a response
- Presenting a point of view clearly and forcefully in a variety of media
- Using sight, sound, motion, and words to create powerful and exciting images
- Transmitting feelings and experiences to others in an intensified way
- Putting complex subject matter into easily understood language
- Holding the attention of an audience; speaking clearly and persuasively
- Synchronizing words with music, movement, sound, and lighting effects to produce a finished work
- Effectively using design elements, such as paper, color, typography, illustrations, photographs, and titles, to arrange layouts and make people, stop, read, and remember
- Launching new products from inception to purchase
- Using investigative techniques to develop a lead; going after a story and getting it, regardless of obstacles
- Enlivening news pages with photojournalism
- Capturing a single, decisive picture to represent a news event
- Promoting relationships within or between groups by improving the lines of communication
- Promoting the public image of a client
- Writing press releases, scripts, and other promotional materials and persuading the media to use them
- Designing and executing promotional events, such as press briefings, store openings, conferences, and exhibits
- Operating cameras, recorders, and other audio, visual, and audiovisual equipment
- Locating and obtaining settings, costumes, properties, and other effects.
- Using communication techniques--including listening--to deal directly with many different kinds of people, either in groups or individually
- Selecting, evaluating, and editing media materials

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	REPORTER (with possibility of eventual promotion to columnist, commentator, news analyst, or editorial writer)	131.267-018	availability at all hours, skill in typing Helpful: experience with school paper or broadcasting station; courses in business, economics, sociology, photography, foreign languages, political science	wire services, newspapers, periodicals, broadcasting companies--most beginning jobs with small companies (Many editors consider only top students.)
	FOREIGN CORRESPONDENT	131.267-018	fluency in foreign languages Helpful: experience with local paper or school publication; courses in political science, economics, sociology	newspapers & magazines, radio & T.V. networks
	NEWSWRITER rewriter	131.267-014	typing skill Helpful: courses in English, political science	newspapers; radio & T.V. stations & networks (especially stations with hourly news or all news formats
	COPYWRITER (Writes advertisements, commercials, publicity releases, sales-promotion materials, trade-journal articles about products or services.)	131.067-014	"how I'd do it" sample based on knowledge of product; courses in science or engineering for technical advertising Helpful: courses in marketing, visual arts, or design	advertising agencies, retail companies (advertising depts, publishers, chambers of commerce, professional & trade associations)

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	WRITER, TECHNICAL PUBLICATIONS technical writer PROCESS-DESCRIPTION WRITER	131.267-026	courses in science, engineering, or technology	publishers of manuals & instruction books, research institutes, professional & trade journals, magazines, broadcast media, freelance
	business writer	________	business courses or experience	businesses & industries, business magazines
	WRITER, PROSE, FICTION AND NONFICTION	131.067-046	fresh ideas, work samples, proposals Helpful: experience on school publications; & an area of expertise, such as sports	book publishers; magazines; (news, professional, consumer, sport, hobby, business, trade); freelance
	SCREEN WRITER script writer (Writes program scripts, commercials, news.)	131.087-018	work samples Helpful: courses in drama, marketing, political science	T.V. stations or networks, motion picture companies, producers of educational films & audiovisual aids
	PLAYWRIGHT	131.067-038	Helpful: showcase production by a theater workshop	theater groups, motion picture & T.V. producers, publishers of plays
	COMEDY WRITER	131.067-026	sample of writing for comedy show	radio & T.V. stations & networks

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	LIBRETTIST	131.067-030	portfolio of work samples	musical organizations, music publishers, composers, motion picture producers, producers of radio & T.V. programs
	LYRICIST	131.067-034	Helpful: courses in music, poetry, drama	
	TRANSLATOR (often part-time)	137.267-018	command of languages, typing skill Helpful: scientific or technical knowledge & vocabulary; graduate study in languages; skill in computer programming for use in machine translating	govt, United Nations, other international organizations, import & export companies, publishers, travel agencies, translating services, research institutions, graduate schools of universities, foreign representatives in the U.S. (diplomatic, commercial, scientific), news media translation agencies, freelance
	PROGRAM PROPOSALS COORDINATOR	132.067-030		radio & T.V. stations
	GRANT COORDINATOR	169.117-014		community agencies, institutions, units of State & local govt

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING MEDIA	EDITORIAL ASSISTANT associate editor MANUSCRIPT READER COPY READER	132.267-014	typing skill For Advancement: creative story ideas	book publishers (including textbooks); magazines--trade, news, professional, consumer, sport, hobby, alumni, business--company house organs; newspapers
	READER story analyst	131.087-014	typing skill	motion picture, radio & T.V. companies
	SCRIPT READER CONTINUITY READER	131.267-022	typing skill	radio & T.V. stations
	EDITOR, TELEGRAPH (Edits news from teleprinter.)	132.267-010	————	newspapers, radio & T.V. broadcasters
	EDITOR, FILM (Cuts & splices film or video tape to edit or insert commercials.)	962.264-010	cinematic arts or video workshop courses	motion picture companies, producers of educational films & audiovisual materials, public & cable T.V. companies, independent producers of T.V. programs
	AUDIOVISUAL LIBRARIAN film librarian	100.167-010	master's degree in library science with concentration on use & development of audiovisual materials	universities & colleges, public libraries, institutions

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING MEDIA	MEDIA SPECIALIST, SCHOOL LIBRARY	100.167-030	master's degree in library science with concentration on use & development of audiovisual materials (Check State requirements.)	schools
	MUSIC LIBRARIAN	100.367-022	broad knowledge of music, master's degree in library science	public libraries, radio & T.V. stations & networks, universities & colleges
	MUSIC LIBRARIAN, INTERNATIONAL BROADCAST	100.367-026	knowledge of music & languages, familiarity with listening tastes of different cultural groups, master's degree in library science	radio & T.V. networks
	DIRECTOR, INSTRUCTIONAL MATERIAL audiovisual specialist	099.167-018	master's degree in education with concentration on audiovisual materials	depts of education
	MOVIE CRITIC	131.067-018	samples of published reviews	newspapers, magazines, radio, public & cable T.V. stations
	BUYER, TIME AND SPACE media buyer (Selects effective mass media.)	162.157-038	Helpful: courses in marketing, statistics, economics	advertising agencies

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING AURALLY	AUDIO OPERATOR (Controls sound from individual microphones during T.V. broadcast.)	194.262-010	knowledge of electronics & music; skill in using electronic equipment; good hearing Preferred: first-class radiotelephone-operator license from Federal Communications Commission Helpful: courses in physics, engineering	T.V. stations
	SOUND MIXER (Controls sound in recording studio.)	194.262-018	familiarity with audio equipment, knowledge of music, good hearing	broadcasters; film, tape, & record studios; independent program-production companies
	SOUND CONTROLLER (Controls sound in live theater.)	194.262-014	experience with sound equipment at theater or campus broadcasting station	stage productions
	SOUND EFFECTS TECHNICIAN	962.281-014	———	broadcasting stations
	COMPOSER	152.067-014	sample of work	broadcasting stations, theaters, recording companies
	CUE SELECTOR (Integrates music with story line.)	152.067-018	knowledge of music	T.V. stations, motion picture producers

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING AURALLY	DIRECTOR, MUSIC musical director	152.047-018	skill in arranging & directing music	broadcasters
SPEAKING	ANNOUNCER staff announcer (possibility of advancement to newscaster; sportscaster; special program performer; farm, music, or consumer affairs editor; commentator; or program director)	159.147-010	fluency (ability to ad lib); pass taped audition for voice, timing, pronunciation; knowledge of microphone & camera techniques; knowledge of drama, sports, music, current events; experience with local or campus broadcasting station (Check on need for union membership. At small stations, check on need for Federal Communications Commission third-class license to operate transmitting equipment.)	broadcasting stations & networks
	DISK JOCKEY	159.147-014		
	INTERPRETER escort interpreter (often part-time)	137.267-010	fluency in two or more languages, availability to travel, good hearing	govt, international organizations, or abroad
COMMUNICATING VISUALLY	PHOTOJOURNALIST news photographer	143.062-034	physical stamina Helpful: courses in art, physics, chemistry	newspapers, news magazines, international wire services, T.V. broadcasters

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING VISUALLY	PHOTOGRAPHER, MOTION PICTURE CAMERA OPERATOR, TELEVISION	143.062-022	filmmaking workshop, courses in cinematic art Helpful; courses in photography, art, physics (of light)	T.V. broadcasters (public or cable), motion picture companies, producers of T.V. programs
	DIRECTOR OF PHOTOGRAPHY cinematographer	143.062-010		
	AUDIOVISUAL PRODUCTION SPECIALIST videotape artist	149.061-010	T.V. , video, or audiovisual production workshop	producers of educational films & audiovisual materials, public & cable T.V. companies, independent producers of videotapes for T.V.
	BIOLOGICAL PHOTOGRAPHER MEDICAL PHOTOGRAPHER	143.362-010	requirements vary--contact prospective employers	publishers of scientific & medical journals & books, universities, medical schools, hospitals, dental or veterinary facilities, pharmaceutical firms, research organizations, museums
	GRAPHIC DESIGNER	141.061-018	good color perception; samples of work; courses in art, typography, layout; courses in science or engineering--for technical advertising	advertising agencies, publishers, graphic arts studios, printing shops, chambers of commerce, direct mail specialists, T.V. film or tape production compnies, outdoor advertising companies (billboards & car cards for trains & buses)

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING VISUALLY	ILLUSTRATOR	141.061-022	art courses; portfolio of work	book & magazine publishers
	ILLUSTRATOR, MEDICAL AND SCIENTIFIC (Prepares drawings, models, photographs, exhibits.)	141.061-026	portfolio; courses in art (including life drawing), photography, biological science; for medical work--a master's degree in medical illustrating	publishers of scientific & medical journals & books, universities, medical schools, hospitals, dental or veterinary facilities, pharmaceutical firms, research organizations, museums
	ILLUSTRATOR, SET	141.061-030	art courses, photographs of work Helpful; courses in theater arts	T.V. & motion picture studios
	SET DECORATOR	142.061-042	Helpful: courses in design, art history, theater arts; work on school productions	T.V. & motion picture producers, theaters
	EDITORIAL CARTOONIST	141.061-010	portfolio of work	book & magazine publishers, newspapers, advertising agencies, freelance
	CARTOONIST, MOTION PICTURES	141.081-010	samples of work Helpful: courses in computer science for computerized animation	T.V. & motion picture producers

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING VISUALLY	LASERIST	159.042-010	courses in physics, knowledge of music	planetariums, entertainment centers
	MANUAL-COMMUNICATION SPECIALIST	137.227-500	facility with language for the deaf; good hearing	legal, medical, & psychiatric facilities
PERFORMING	INTERPRETER, DEAF interpreter for the deaf	137.267-014	facility with language for the deaf; good hearing Helpful: mime courses	T.V. networks
	ACTOR	150.047-010	pass audition; willingness to explore & express personal feelings Helpful: courses in dramatics, participation in campus productions	radio & T.V. networks, independent program producers, theater groups, motion picture producers, producers of T.V. commercials, booking agents
	COMEDIAN	159.047-014	Helpful: courses in mime, sample tape of performance	theaters, nightclubs, motion picture & T.V. studios, booking agents, entertainment groups, freelance for parties
	PUPPETEER	159.041-014	Helpful: courses in design, singing, dramatics	
ASSISTING A DIRECTOR	PROGRAM ASSISTANT production assistant associate director	962.167-014	workshop experience	public & cable T.V.
	TELEVISION SCHEDULE COORDINATOR	199.387-010	________________	public & cable T.V.

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	PUBLIC-RELATIONS REPRESENTATIVE PUBLIC INFORMATION OFFICER press agent	165.067-010	enthusiastic manner, fresh ideas Helpful: courses in a field related to the firm's business; availability to travel & work at any hour; portfolio of published articles or tapes of programs	public relations consulting firms, large corporations, mfrs (especially of autos, electronics, metals, chemicals, paper & lumber, consumer products), public utilities, transportation or insurance companies, trade & professional associations, educational institutions, health & human service organizations, retailers, banks, govt
	FUND RAISER I DIRECTOR, FUND RAISING	293.157-010 165.117-010	demonstrable ability to bring contributions or membership	social service, political, & community-action organizations
	business communicator (Communicates information internally between management & employees or externally to the public.)	—	business courses or experience Helpful: skill in producing audiovisual materials	businesses & industries
	SONG PLUGGER	165.157-010	—	phonograph recording mfrs
	ADVANCE AGENT	191.167-010	—	motion picture companies, touring theatrical companies, circuses

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	LOBBYIST legislative advocate	165.017-010	Helpful: courses in political science, economics, sociology; experience working for a political candidate or citizens' organization; an area of expertise, such as solar energy For Advancement: law degree	political or consumer action groups, labor unions, corporations
	EQUAL OPPORTUNITY REPRESENTATIVE affirmative action officer or coordinator	168.167-014	Helpful: experience in programs designed to improve economic & educational opportunities	govt, large firms & institutions
	HOME ECONOMICS SPECIALIST AGRICULTURAL EXTENSION SPECIALIST cooperative extension service worker	096.127-014	courses in home economics, agriculture, agronomy, soil science Helpful: experience working with groups	county govts, State extension services at land-grant universities
	FOREIGN SERVICE OFFICER	188.117-106	fluency in languages; master's degree in economics, political science, international relations or foreign service	Federal govt
	OUTREACH LIBRARIAN	100.127-014	1-year master's degree in library science	public libraries

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	PROGRAM DIRECTOR, GROUP WORK	187.117-046	Helpful: courses in business or public administration, recreation, social work, sociology, political science	scouting organizations, State & area agencies on aging, community centers
	COMMUNITY RELATIONS AND SERVICES ADVISOR, PUBLIC HOUSING	195.167-014	master's degree in social work--usually	low-income public housing developments
	DIRECTOR, EDUCATION museum educator (Develops & supervises educational programs, exhibitions, tours, films, outreach.)	099.117-030	public relations or teaching experience Helpful: courses in education, business or public administration, art history, biology, geology, anthropology, museum science	museums
SELLING	LITERARY AGENT	191.117-034	ability to develop contacts with editors	literary agencies--or start own business
	SALES REPRESENTATIVE, ADVERTISING	254.357-014	________	newspapers, magazines
	SALES REPRESENTATIVE, RADIO AND TELEVISION TIME	259.357-018	familiarity with station's program Helpful: courses in marketing, statistics	radio & T.V. stations
	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTIONS	259.157-010	________	recording services, producers of film & taped programs

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, COMMUNICATION EQUIPMENT	271.257-010	knowledge of electronics	suppliers of broadcasting equipment
	SALES REPRESENTATIVE, VIDEOTAPE	271.357-014		wholesale videotape dealers
	SALES REPRESENTATIVE, PUBLICATIONS	277.357-022		publishers & distributors of books & magazines
	SALES REPRESENTATIVE, PRINTING	254.357-018		printing firms
	SALES REPRESENTATIVE, PRINTING SUPPLIES	274.357-062		mfrs & distributors of printing supplies
	BOOKING MANAGER FILM BOOKER BAND BOOKER	191.117-014	Helpful: business administration courses	booking agencies, motion picture companies
	photographers' representative (Represents photographers & artists & sells their work to art directors of advertising agencies, business corporations, department stores, catalog houses, magazines, book publishers, design studios, T.V. production or record companies.)			photographic studios, self-employment

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	MARKET-RESEARCH ANALYST pollster public opinion surveyor (Researches characteristics of buyers.) product researcher (Researches reception of product.) copy researcher (Researches effectiveness of advertisements or commercials.)	050.067-014	Helpful: courses in economics, business administration, data processing, statistics, psychology For Advancement: master's degree in marketing	mostly in large cities: mfg companies, advertising agencies, market-research organizations, universities
	PURCHASING AGENT media buyer time-and-space buyer (Researches product & audience to select effective media.)	162.157-038	Helpful: business administration courses	sales agencies
	RESEARCH ASSISTANT	199.267-034		colleges & universities, foundations, govt.
	LEGISLATIVE ASSISTANT	169.167-066		legislative offices
	HISTORIAN, DRAMATIC ARTS (Researches locales for dramas.)	052.067-026	Helpful: experience in dramatics; courses in art history, theater arts	theatrical-equipment companies, T.V. broacasters, motion picture companies
COMMUNICATING DIRECTLY	INTERVIEWER contestant interviewer (Selects participants for T.V. game shows.)	166.167-010		T.V. broadcasters
	CONTACT REPRESENTATIVE	169.167-018		govt

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING DIRECTLY	WORLD-TRAVEL COUNSELOR TRAVEL AGENT travel counselor	238.167-014 252.157-010	fluency in languages, travel experience Helpful: work experience with airlines, courses in geography	corporate travel depts, travel agencies, travel clubs, hotel-reservation agencies, auto-rental firms
	FOREIGN-STUDENT ADVISOR	090-107-010	master's degree in counseling; fluency in foreign language	colleges & universities
	COUNSELOR--employment, school guidance, vocational, college career planning & placement	045.107-010	master's degree in counseling, guidance, education, or business; teaching experience--frequently for school counseling	employment agencies, schools, colleges, halfway houses, depts of correction, social-service & mental health agencies in inner city & rural areas
	VOCATIONAL-REHABILITATION COUNSELOR	045.107-042	master's degree--for most agencies--but workstudy program often available to earn degree while working	State & local rehabilitation agencies, Veterans Administration, hospitals, rehabilitation workshops, labor unions, insurance companies, job placement services, special schools
	LABOR-RELATIONS CONSULTANT INDUSTRIAL-RELATIONS REPRESENTATIVE	166.167-034	master's degree in industrial or labor relations Helpful: courses in personnel management, labor economics, industrial psychology, sociology For Advancment: law degree	firms offering labor-relations advice to management or labor; govt

MAJOR: COMMUNICATIONS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING DIRECTLY	TEACHER, ADULT EDUCATION teacher of journalism or cinema	099.027-030	ability to attract students with an interesting course idea	evening schools, community centers
	TRAINING REPRESENTATIVE training instructor	166.227-010	______	private firms, govt
	EQUAL OPPORTUNITY OFFICER	168.267-114	courses in human resources management	commercial & industrial firms, govt
	HUMAN RESOURCE ADVISOR	166.267-046	graduate degree in human resources management or labor relations	human resources consulting firms
	EMPLOYEE RELATIONS SPECIALIST	166.267-042	courses in labor relations & human resources management	commercial & industrial firms, govt
	PERSONNEL RECRUITER	166.267-038	courses in personnel management	most business establishments, govt
	JOB DEVELOPMENT SPECIALIST	166.267-034	______	govt agencies, chambers of commerce
	RECRUITER	166.267-026	Helpful: personnel management, public relations courses; a few years service in military	military services
	EMPLOYER RELATIONS REPRESENTATIVE	166.257-010	______	State employment security agencies

Note: Since openings in this field are limited, it may be helpful to consider also the job possibilities listed under your minor and under "Any Major."

MORE INFORMATION

Accrediting Council on Education in Journalism and Mass Communications, School of Journalism, University of Kansas, Lawrence, Kansas 66045. Ask for *Accredited Journalism and Mass Communications Education*, a list of universities offering courses in journalism, telecommunications, public relations, and advertising.

American Advertising Federation, 1400 K Street, N.W., Washington, D.C. 20036.

American Association of Advertising Agencies, 666 3 Avenue, Floor 13, New York, New York 10017.

American Newspaper Publishers Association Foundation, P.O. Box 17407, Dulles International Airport, Washington, D.C, 20041. Ask for *Your Future in Daily Newspapers*.

Association of Medical Illustrators, 2692 Huguenot Springs Road, Midlothian, Virginia 23113. Ask for *Medical Illustration*.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Newspaper Reporter	113
Public Relations Representative	276
Film Editor	323

Careers in Communications by Shonan F. R. Noronha, VGM Career Horizons, Division of National Textbook Company, Illinois, 1987.

Jobs in television, public relations, photo-journalism, and other fields. Factors to consider plus education and experience needed.

Career Opportunities in Television, Cable and Video by Maxine K. and Robert M. Reed. Facts on File Publications, New York, New York, 1986.

Jobs in--engineering, sales, management, production, crafts,---. Needed skills, advancement, minority/women's opportunities,---. See appendixes of degree and non-degree programs of education and sources of funding.

Director Marketing Educational Foundation, 6 East 43 Street, New York, New York 10017. Ask for *Your Career in Direct Mail*.

Dow Jones Newspaper Fund, Inc., P.O. Box 300, Princeton, New Jersey 08543. Ask for the *Journalism Career and Scholarship Guide*. Includes descriptions of journalism and communications courses offered at different universities.

Florida A & M University, Tallahassee, Florida. Ask for *Newspaper Journalism. . . . . for Minorities*.

Getting Into Advertising: A Career Guide by David Laskin. Ballantine Books, 1986.

How various areas of industry work, types of jobs, prominent companies, contacts.

Guild of Natural Science Illustrators, P.O. Box 652, Ben Franklin Station, Washington, D.C. 20044. Ask for *Careers in Scientific Illustration*.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask to hear tape 843 *Journalism*.

International Association of Business Communicators, 870 Market Street, Suite 940, San Francisco, California 94102. *Ask for Business Communication as a Career*.

Internships--Advertising, Marketing, Public Relations, Sales - Volume 1 (updated annually).
Internships--Newspaper, Magazines, and Book Publishing - Volume 2 (updated annually).
Edited by Ronald W. Fry. Career Press, Inc., New Jersey.
Listings of companies offering entry-level internships

Literary Market Place (updated annually). R.R. Bowker Company, New York.
Directory of publishing. Includes publishers (with categories of materials published), manufacturers, newspapers, editorial and art services, and related data.

Making It In the Media Professions by Leonard Mogel. The Globe Pequot Press, Connecticut, 1988.
How to enter various career paths, where to study, how industries function, and job duties.

Museum of Holography, 11 Mercer Street, New York, New York 10013

National Association of Broadcasters, 1771 N Street, N.W., Washington, D.C. 20036. Ask for either *Careers in Radio* or *Careers in Television*.

National Association of Science Writers, P.O. Box 294, Greenlawn, New York 11740.

National Newspaper Foundation, 1627 K Street, N.W., Suite 400, Washington, D.C. 20006.

National Press Photographers Association, Inc., 3200 Croasdaile Drive, Suite 306, Durham, North Carolina 27705. Ask for *Careers in News Photography*.

The Newspaper Guild (AFL-CIO, CLC), 8611 Second Avenue, Silver Spring, Maryland 20912.

Newspapers Career Directory, second edition. Edited by Ronald W. Fry. The Career Press, Inc., New Jersey, 1988.
Areas of specialization in departments of a newspaper. Experience and education needed. How to enter the field--advice via articles written by people who work in the specialties.

New York/International Association of Business Communicators, P.O. Box 2025 Grand Central Station, New York, New York 10017. Ask for *Sell Yourself as a Pro-Communicator*.

O'Dwyer's Directory of Public Relations Firms (updated annually). Edited by Jack O'Dwyer. J.R. O'Dwyer Company, New York, New York.
Profiles of firms--size, location, areas of endeavor,---.

Professional Photographers of America, Inc., 1090 Executive Way, Des Plaines, Illinois 60018.

Public Relations Career Directory (updated annually). Edited by Ronald W. Fry. The Career Press, Inc., New Jersey
Various aspects of the field and specialties.

Public Relations Society of America, 33 Irving Place, New York, New York 10003. Ask for *Careers in Broadcast News*. Fee.

Radio-TV News Directors Association, 1717 K Street, N.W., Suite 615, Washington, D.C. 20036 Ask for *Careers in Broadcast News*. Fee.

The Society of Professional Journalists, Sigma Delta Chi, 53 W. Jackson Boulevard, Suite 731, Chicago, Illinois 60604.

Society for Technical Communication, 815 15 Street, N.W., Washington, D.C. 20005. Ask for *Is Technical Writing Your Career?*

U.S. Department of Labor Women's Bureau, 200 Constitution Avenue, N.W., Washington, D.C. 20210. Ask for *Women on the Job: Careers in Broadcasting.*

Writer's Digest (updated annually). Edited by Glenda Tennant Neff and Robin Gee. Writer's Digest Books, Ohio.

Profiles and listings (arranged by subject) of organizations which buy written materials. Includes specifics of submission and areas of interest.

Writer's Digest School, Opportunity Coordinator, 9933 Alliance Road, Cincinnati, Ohio 45242. Ask for *Jobs and Opportunities for Writers.*

ECONOMICS

Economics is the study of the ways people make a living; produce, distribute, and consume goods and services; and reach decisions about the use of scarce resources. Economists recommend ways to use natural resources without waste. Problems, such as inflation and unemployment are analyzed and suggestions for change of government policy are made. Costs are balanced against benefits to help decide which of alternate plans to follow. They may decide, for example, whether it would be less expensive to remodel or to replace outdated equipment.

Coursework in this major includes mathematics--through calculus, statistics, and business administration. Courses in computer science, political science, sociology, accounting, and finance are recommended.

Students may approach economics from the viewpoint of government, international business, agribusiness, labor unions, or consumers and taxpayers. Specialization is usual. Economists may specialize in global economics or in microeconomics, concentrating on a single institution.

Economics is offered as a major in colleges of business, liberal arts, and agriculture. Students interested in agricultural economics need a school offering courses in agriculture. Students interested in aiding consumers with their problems may choose a school with a strong department in home economics or human ecology.

In government and business, a bachelor's degree is sufficient for a beginning job as an assistant or trainee. Collecting data is a large part of beginning jobs. An advanced degree--in economics, business administration, or law--is needed for more responsible positions and for teaching in a college or university.

Economics has widespread applications. Most decisions--by governments, businesses, or individuals--involve trade-offs or the balancing of costs and benefits. Most human endeavors involve the production, distribution, or consumption of goods or services.

Failure to understand economics can leave an individual or a business bankrupt, and--on a larger scale--economic chaos can lead to the collapse of government. In an industrial society, economics is a necessity.

MARKETABLE SKILLS

ECONOMICS MAJORS

- Designing surveys, planning methods for collecting data
- Gathering information about the economic conditions of a geographic area; the production, prices, and stock on hand of a business; the qualifications of workers; or the income levels and product preferences of consumers
- Dealing effectively with individuals or groups to obtain information, using interviewing techniques
- Recording findings accurately and in detail
- Participating in team work
- Using mathematical, statistical, and computer methods to deal with and interpret data
- Writing clear, concise reports and illustrating them with charts, tables, and graphs to present statistical data in an easy-to-grasp way
- Making oral presentations
- Interpreting economic policies and programs; explaining resource management to the public
- Determining costs and benefits; recommending cost-efficient methods of production or pollution control
- Predicting the impact of proposed legislation or policy change; for example, the effect of an increased minimum wage on youth employment or the effect of increased taxes or tariffs on prices
- Forecasting sales and business trends
- Making economically based decisions, such as which machine to buy, what to produce, how much to spend on advertising, and what price to ask or pay
- Planning government programs in housing, transportation, environmental protection, health, or employment development and training
- Giving investment advice
- Appraising property

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COLLECTING AND ANALYZING DATA	FINANCIAL ANALYST portfolio analyst security analyst	020.167-014	sponsorship & training by brokerage firm, followed by exam for certification	financial institutions, insurance companies
	COMMODITY ANALYST commodity research analyst technical analyst, commodities market	020.167-014	master's degree in economics, agricultural economics, or in business administration with a specialty in finance or operations research	brokerage houses dealing in commodities futures
	STATISTICIAN, APPLIED	020.167-026	Helpful: experience in computer programing For Advancement: graduate degree in statistics or operations research	mfg, finance, & insurance companies, govt
	MARKET-RESEARCH ANALYST pollster public opinion surveyor market forecaster	050.067-014	Helpful: courses in political science, marketing, psychology For Advancement: master's degree in business administration, marketing research, statistics, political science, or psychology	mfg companies, independent advertising agencies, research organizations, universities, govt
	BUDGET ANALYST	161.267-030	major in accounting or finance with substantial number of accounting courses	govt agencies

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COLLECTING AND ANALYZING DATA	PLANNER, PROGRAM SERVICES	188.167-110		transportation carriers, health care insurers & providers, govt agencies (environmental conservation, transportation, health)
	MANAGEMENT ANALYST systems analyst	161.167-010	master's degree in business administration, experience in computer programing	industries or businesses, consulting firms
	ACTUARY	020.167-010	Helpful: advanced degree in statistics	insurance companies
	OPERATIONS-RESEARCH ANALYST	020.067-018	advanced mathematics courses; graduate study in operations research or industrial engineering Helpful: courses in physical sciences, quantitative economics	large corporations, govt agencies
	CREDIT ANALYST	191.267-014	courses in business administration	mfrs, financial institutions, department stores
	LOAN OFFICER	186.267-018		
	RESEARCH ASSOCIATE	109.067-014	master's degree as a minimum; usually completion of academic requirements for Ph.D.	colleges & universities, private foundations, govt
	LEGISLATIVE ASSISTANT	169.167-066		legislative offices

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
CONSERVING RESOURCES	GEOGRAPHER economic geographer (Studies geographic distribution of resources, conducts feasibility studies to determine costs & benefits of various uses of resources.)	029.067-010	graduate study in geography	govt
	SOIL CONSERVATIONIST	040.061-054	courses in agronomy & soil science, agriculture or forestry	govt, universities
	URBAN PLANNER community planner transportation planner health-service planner	199.167-014	Helpful: courses in geography, architecture, urban & rural sociology Preferred: master's degree in community planning, economics, or public or business administration	govt, consulting firms, insurance companies, land-development corporations, utilities
INTERPRETING POLICY, ADMINISTERING	EMPLOYMENT INTERVIEWER	166.267-010	Helpful: courses in personnel administration, industrial & labor relations, sociology, industrial psychology	industrial, commercial, service, or govt establishments
	EQUAL-OPPORTUNITY REPRESENTATIVE	168.167-014		govt
	affirmative-action officer or coordinator			large firms & institutions

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERPRETING POLICY, ADMINISTERING	ADMINISTRATIVE ASSISTANT personnel administrative trainee	169.167-010	Helpful: courses in business or personnel administration For Advancement: master's degree in industrial psychology	businesses, industries, govt
	ADMINISTRATOR, HOSPITAL health-care administrator	187.117-010	courses in natural science, psychology, sociology, accounting; master's degree in health, hospital, or public administration (may be obtained while working as an administrative assistant in nursing home); State license for nursing homes	medical centers, clinics, hospitals, nursing homes
	ACCOUNTANT	160.167-010	For Advancement: pass exam for Certified Public Accountant (CPA); master's degree in business administration	private companies, govt, or self-employment
	ACCOUNTANT, COST	160.167-018		
	EQUAL OPPORTUNITY OFFICER	168.267-114	courses in human resources management	commercial & industrial firms, govt
	UNDERWRITER	169.167-058	For Advancement: pass Corporate Life Underwriter (CLU) exam	insurance companies

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERPRETING POLICY, ADMINISTERING	CONTACT REPRESENTATIVE (Interprets govt programs involving benefits or obligations.)	169.167-018		govt
	CLAIMS ADJUDICATOR	169.267-010		govt
	FOREIGN-SERVICE OFFICER	118.117-106	fluency in languages, master's degree in economics, political science, international relations, or foreign service	Federal govt
	MANAGEMENT TRAINEE	189.167-018	Helpful: business or leadership experiences For Advancement: master's degree in business administration	banks, businesses, industries, govt, department-store chains, utilities, insurance companies
	MANAGER, CREDIT AND COLLECTION	168.167-054	Helpful: courses in accounting, finance, computer programing	retail stores, banks, credit unions, mfrs, wholesalers
ADVISING	AGRICULTURE EXTENSION SPECIALIST cooperative extension service worker	096.127-014	courses in agriculture, agronomy, soil science Helpful: experience working with groups, courses in journalism	govt, mostly county; State extension services at land grant universities

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ADVISING	LAWYER	110.107-010	graduation from law school, passing of written exam (Check on State requirements.)	business or law firms, citizens' organizations, govt-or independent practice
	BUDGET CONSULTANT CREDIT COUNSELOR	160.207-010	courses in accounting (Check on need for State license.) Helpful: courses in home economics, finance, psychology	financial institutions
	LABOR-RELATIONS CONSULTANT INDUSTRIAL-RELATIONS REPRESENTATIVE	166.167-034	master's degree in industrial or labor relations Helpful: courses in personnel management, labor economics, industrial psychology, sociology For Advancement: law degree	firms offering labor-relations advice to either labor or management, govt
	EMPLOYEE RELATIONS SPECIALIST	166.267-042	courses in labor relations & human resources management	commercial & industrial firms, govt
	EMPLOYER RELATIONS REPRESENTATIVE	166.257-010		State employment-security agencies
	FINANCIAL-AID COUNSELOR (Provides information, evaluates eligibility.)	169.267-018	Helpful: courses in psychology, sociology, data processing For Advancement: master's degree in student-personnel work	colleges, universities

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INFLUENCING	LOBBYIST legislative advocate	165.017-010	Helpful: experience working for a political candidate or public-interest organization	citizens' organizations, unions, interest groups, industries, utilities
	JOB DEVELOPMENT SPECIALIST	166.267-034		govt agencies, chambers of commerce
TEACHING	TEACHER, SECONDARY SCHOOL junior high or high school teacher, social studies	091.227-010	certification with State Dept. of Education; master's degree--in some States--after specified period of time Helpful: ability to teach in more than one subject area, willingness to relocate where the jobs are	public & private high schools & junior high schools
	TEACHER, JUNIOR COLLEGE	090.227-010	master's degree in economics, accounting, or business administration	community colleges
APPRAISING, SELLING, BUYING	BUYER, ASSISTANT	162.157-022	availability to travel Helpful: courses in merchandising or marketing	chain department stores
	WHOLESALER IMPORTER EXPORTER	185.157-018	Helpful: fluency in a foreign language	wholesalers

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
APPRAISING, SELLING, BUYING	PROPERTY-UTILIZATION OFFICER	188.117-122	________	govt
	APPRAISER	188.167-010	on-the-job training by a govt agency Helpful: courses in finance, marketing, real estate, valuation science	govt agencies (as Housing & Urban Development, Federal Highway Administration, Internal Revenue Service)
	SALES AGENT, INSURANCE	250.257-010	initiative, sales ability, on-the-job training followed by exam for State license Helpful: courses in insurance, business law	insurance companies
	SALES AGENT, REAL ESTATE	250.357-018	courses in real estate & training on the job, followed by exam for State license Helpful: knowledge of local community	real estate firms
	SALES AGENT, SECURITIES	251.157-010	training under sponsorship of stock-brokerage firm, followed by exam for State license	stock brokerage firms

MAJOR: ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
APPRAISING, SELLING, BUYING	commodity futures broker registered commodity representative	—	2 years on-the-job training at a large brokerage house Helpful: courses in agricultural economics, finance, commodities law	brokerage houses dealing in commodities futures
	SALES AGENT, FINANCIAL-REPORT SERVICE	251.357-014	—	publishers of financial reports & credit-rating books, computerized information services

Note: There are other jobs out there for you. See also the suggestions listed under "Business and Public Administration, or "Home Economics," depending upon your course emphasis and minor.

MORE INFORMATION

American Agricultural Economics Association, 80 Heady Hall,Iowa State University, Ames, Iowa 50011. Ask for *Economics in Agriculture, Business, Government. . . and Rural Affairs*.

American Economic Association, Suite 809, Oxford House, 1313 21 Avenue South, Nashville, Tennesee 37212.

American Marketing Association, 250 S. Wacker Drive, Suite 200, Chicago, Illinois 60606. Ask for *Careers in Marketing*.

American Society of Appraisers, Dulles International Airport, P.O. Box 17265, Washington, D.C. 20041.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Accountant	1
Buyer (Retail Trade)	118
Credit and Collection Manager	132
Economist	253
Hotel and Motel Managers	114
Market-Research Analyst	291
Securities Broker	252

Career Choices for Students of Economics by Career Associates. Walker and Company, Inc., New York, New York 1985.

Jobs in various areas of industry, duties, advancement.

Eastman Kodak Company, Personnel Resources, 343 State Street, Rochester, New York 14650-1139. Attention: Mr. Jack Murtz. Booklets available (single copies):

Career Decisions: The Art of Matchmaking
Excelling in Imaging and Beyond
The Future is Yours
Government Systems Division - Research and Engineering
Health and Environment Laboratories
More Than Meets The Eye

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Mathematics and Economics Majors*.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask for tape no. 837, *Economics*.

National Association of Business Economists, 28349 Chagrin Boulevard, Cleveland, Ohio 44122. Ask for *Business Economics Careers*.

National Labor Relations Board, Personnel Branch, 1717 Pennsylvania Avenue, N.W., Washington, D.C. 20570. Ask for *A Career in Labor-Management Relations as a Field Examiner*.

Society of Real Estate Appraisers, 225 North Michigan Avenue, Suite 724, Chicago, Illinois 60601.

Your nearest Federal Job Information and Testing Center (U.S. Office of Personnel Management), State and local civil service commissions for information on job openings requiring college graduation.

EDUCATION

Education majors study methods of teaching and learning. Psychology and sociology are part of the curriculum: psychology to understand child development; sociology to understand how different environments affect children. Coursework is supplemented by practice teaching, some colleges offering more extensive practice than others--check their catalogs. Students who plan to teach in elementary school usually minor in psychology or sociology, but other recommended minors are those that build a background in subject matter such as English, Botany, or Geology. Most elementary teachers are generalists, but some specialize, for example in art, music, or health.

Teaching is a crowded field, and many education majors never teach or switch to something else after a few years. Most elementary school openings are in small, rural communities. Prospects are best for graduates with coursework in special education, which prepares them to teach children who are either unusually gifted or disabled because of mental retardation, physical impairment, emotional disturbance, or a learning disorder. In some schools, there is a demand for bilingual and bi-cultural teachers with a knowledge of Spanish, an Asian language, Italian, French, or Portuguese.

A bachelor's degree in elementary education prepares a student for teaching at either the elementary or preschool level. Not all States issue or recognize a license in early childhood education, but students interested in this area can major in elementary education, supplementing their study with additional courses related to early childhood. Openings depend upon the availability of funds for day-care centers and nursery schools.

For high school, concentration on a particular subject matter--the subject to be taught--is required. For example, majoring in agricultural education at an agricultural college is the recommended preparation for teaching agriculture in a high school or vocational school. Although openings for high school teachers are few, there is a demand for specialists in some vocational subjects, sciences, and mathematics.

Requirements vary in different States. Personality factors are considered in hiring: enthusiasm,emotional stability, and leadership ability. After a worker is hired, additional study for graduate credits is frequently required.

Teaching methods can be used outside the classroom and adapted to different age groups. A specialist in reading skills, for example, may work in a private reading clinic assisting children who need individualized attention or adults who want to increase their reading speed. Some education graduates use their skills in private industry: conducting training programs to orient new workers or to upgrade employee skills, instructing customers in the use of company products--such as office equipment, or preparing educational materials to influence the public.

MARKETABLE SKILLS

EDUCATION MAJORS

- Guiding activities of others, with responsibility for the results
- Teaching knowledge and skills, motivating for peak performance
- Dealing effectively with individuals and groups
- Planning and organizing courses of study and activities such as trips, parties, and performances
- Delegating responsibility to members of a work team and encouraging cooperation within the team
- Maintaining order, resolving differences, anticipating and preventing trouble
- Gathering information on a subject, organizing and presenting it in a manner that holds attention
- Adapting the presentation of information to different audiences and age levels
- Selecting and effectively using audio-visual and other educational materials
- Assessing the progress of individuals and the success of programs

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	TEACHER, ELEMENTARY SCHOOL	092.227-010	dept. of education teacher's certificate (Check with local superintendent of schools & State dept. of education for additional requirements.)	public schools through middle school (junior-high school), private & parochial schools
	TEACHER, KINDERGARTEN	092.227-014		
	TEACHER, PRESCHOOL	092.227-018	Helpful: coursework in early childhood education	nursery schools, day-care centers, play schools
	TEACHER, HANDICAPPED STUDENTS (any age, any grade level) special education teacher special class teacher (Provides basic instruction in a small class.)	094.227-018	special education certificate; patience & perseverance	regular public schools, special schools & institutions for the disabled of any age from preschool to adult
	TEACHER, RESOURCE	099.227-042	special education certificate	school systems
	TEACHER, MENTALLY-RETARDED STUDENTS	094.227-022	special education certificate	elementary & secondary schools, centers, institutions
	TEACHER, DEAF STUDENTS	094.224-010	teacher of deaf & hearing impaired certificate	school systems, schools for the deaf
	ORIENTATION THERAPIST FOR THE BLIND mobility instructor	076.221-010	completion of a certified training course, internship, or program in peripatology	State social service depts; schools, organizations & institutions for the blind

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	EDUCATIONAL THERAPIST	094.227-010	sensitivity to moods & emotions of others, 2 - 7 months supervised clinical work experience Helpful: courses in occupational therapy, physical education, AART registration	hospitals; prisons; adult learning centers; homes for the aged; Veterans Administration (hospitals, centers, residences, regional offices); Job Corps
	TEACHER, HOME THERAPY	195.227-018		students' homes, hospitals
	TEACHER AIDE I	099.327-010	teacher assistant license	school systems
	TEACHER, VOCATIONAL EDUCATION (preparation for specific jobs not requiring college degree)	094.227-026	license or journeyworker papers for blue-collar trades; license or registration in health fields; portfolio for photography; formal training at dance academy for dance; varying numbers of years of professional experience for other areas	vocational schools, technical institutions, career centers, colleges & universities, govt agencies, business firms, labor unions, religious organizations
	TUTOR (usually part-time)	099.227-034		tutoring services, colleges, upgrading programs, individual students & parents
	TEACHER, ADULT EDUCATION	099.227-030		night schools, community centers
	INSTRUCTOR, VOCATIONAL TRAINING	097.227-014	experience in a trade	schools, industrial plants

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	INSTRUCTOR, DRIVING	099.223-010	driver's license	public high schools, private driving schools, industries employing drivers
	INSTRUCTOR, BUSINESS EDUCATION	090.222-010	business education license	proprietary schools
	TEACHER, ADVENTURE EDUCATION	099.224-014	______________	schools, camps, private establishments
	INSTRUCTOR, TECHNICAL TRAINING	166.221-010	______________	vendors of robots, programmable controllers & robot controllers
	TEACHER, CORRESPONDENCE SCHOOL	099 227-010	______________	schools offering correspondence courses
	TRAINING REPRESENTATIVE training instructor	166.227-010	______________	private firms, govt
	TEACHER (museum)	099.227-038	courses in history, art history, anthropology, geology, geography, botany, anatomy, zoology, physics, or astronomy. (Requirements vary with the institution.) Experience working with groups of young people	museums, planetariums, zoos, botanical gardens
	WORK-STUDY COORDINATOR, SPECIAL EDUCATION	094.107-010	occupational certificate plus 6 hours diversified cooperative work-study coursework	public school systems

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COUNSELING	COUNSELOR school guidance counselor	045.107-010	counseling certificate--usually requiring teaching experience & master's degree in guidance counseling (Check on State requirements.)	elementary & secondary schools
	COUNSELOR, COLLEGE	045.107-010	Preferred: master's degree in student-personnel education Helpful: varied work experience	colleges
	VOCATIONAL-REHABILITATION COUNSELOR	045.107-042	Preferred; master's degree in education or psychology with a concentration on rehabilitation counseling	State & local rehabilitation agencies, Veterans Administration hospitals, rehabilitation workshops, labor unions, insurance companies, job-placement services, special schools
	FINANCIAL-AID COUNSELOR	169.267-018	____________	colleges, universities
EVALUATING	EVALUATOR	094.267-010	____________	govt & nonprofit agencies
LEADING	GROUP WORKER	195.164-010	Preferred: degree in recreation, physical education, or social work Helpful: craft or sport expertise, knowledge of more than one language	housing projects, halfway houses, community centers, recreation depts YM-YWCA's & YM-YWHA's, institutions, resorts
	RECREATION LEADER	195.227-014		

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ORGANIZING ACTIVITIES	DIRECTOR, EDUCATION museum educator (Directs operation of educational resource center with educational programs, self-guides, tours, films, outreach programs, teacher training.)	099.117-030	master's degree in museum studies plus 6-month internship Helpful: courses in curriculum planning, history, art history, anthropology, zoology, botany, photography, administration, communications	museums, zoos, botanical gardens
	RECREATION SUPERVISOR	187.137-010	Helpful: courses in administration, communications, recreation	nonprofit youth organizations, institutions
SELECTING EDUCATIONAL MATERIALS	CHILDREN'S LIBRARIAN	100.167-018	1-year master's degree in library science	public library systems, institutions
	YOUNG-ADULT LIBRARIAN	100.167-034		
	BOOKMOBILE LIBRARIAN	100.167-014		
	school librarian	________	master's degree in library science plus teacher's certificate (Check on State requirements.)	schools
	MEDIA SPECIALIST, SCHOOL LIBRARY	100.167-030	master's degree in library science with concentration on use & development of audiovisual materials	schools
	CAREER-GUIDANCE TECHNICIAN	249.367-014	________	schools & colleges

242

243

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	RESEARCH WORKER, ENCYCLOPEDIA	109.267-014	________	publishers of encyclopedias
	RESEARCH ASSOCIATE	109.067-014	master's degree as a minimum; usually completion of academic requirements for Ph.D.	museums; zoos; botanical gardens, usually associated with colleges & universities; commercial enterprises; govt
	RESEARCH ASSISTANT	199.267-034	________	colleges & universities
PREPARING EDUCATIONAL MATERIALS	WRITER, PROSE, FICTION, AND NONFICTION writer, children's books	131.067-046	Helpful: a portfolio of writing samples, courses in English, communications, art	publishers of children's books & elementary textbooks, children's magazines
	EDITORIAL ASSISTANT	132.267-014		
	SCREEN WRITER	131.087-018	Helpful: courses in communications, film production, preparation of audiovisual aids, knowledge of foreign languages	producers of educational films & audiovisual aids
	READER story analyst	131.087-014		

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	school representative (Sells educational materials; visits school superintendents, school boards, State depts of education, adoption committees; acts as demonstration teacher to show how materials are used.)	—	—	publishers & producers of instructional materials
	college representative; "college traveller" (Visits colleges, junior colleges, & firms with training programs; sells books to instructors & administrators; acts as a talent scout for prospective professor-authors; locates new acquisitions.)	—	—	publishers of college textbooks
	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTION	259.157-010	Helpful: courses in communications & selection & use of audiovisual materials	motion picture, advertising, & recording companies
	SALES REPRESENTATIVE, EDUCATION COURSES	259.257-010	—	private vocational & correspondence schools
	SALES REPRESENTATIVE, COMMUNICATION EQUIPMENT ("Educates" potential customers on need for product & trains customers' employees in its use.)	271.257-010	knowledge of electronics	suppliers of intercommunication & broadcasting equipment

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, PLAYGROUND EQUIPMENT	277.357-026	______	mfrs & distributors of playground equipment
	SALES REPRESENTATIVE, TOYS AND GAMES	277.357-026	______	toy & game dealers & mfrs
	SALES AGENT, PSYCHOLOGICAL TESTS AND INDUSTRIAL RELATIONS	251.257-014	______	industrial psychology firms, book publishers
DEALING WITH PEOPLE	PUBLIC-RELATIONS REPRESENTATIVE	165.067-010	courses in public relations, journalism, communications, or in a field related to a firm's business, such as biology or finance	mostly large corporations, public-relations consulting firms, mfrs, public utilities, transportation or insurance companies, trade & professional assns, museums, educational institutions, health & human-service organizations, govt
	PURCHASING AGENT buyer, school supplies	162.157-038	______	school systems
	EQUAL-OPPORTUNITY REPRESENTATIVE	168.167-014	Helpful: experience in equal-opportunity or other programs designed to improve the economic & educational opportunities of individuals	govt
	affirmative-action officer or coordinator	______		large firms & institutions

MAJOR: EDUCATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DEALING WITH PEOPLE	HEALTH OFFICER, FIELD	168.167-018	biology courses	govt
	ATTENDANCE OFFICER truant officer; attendance teacher	168.367-010	________	school systems
	ADMINISTRATIVE ASSISTANT	169.167-010	________	business, industrial, philanthropic, or govt organizations
	EXECUTIVE DIRECTOR, SHELTERED WORKSHOP	187.117-026	courses in special education or rehabilitation, experience or training in business administration	rehabilitation organizations
	SUPERVISOR, VOLUNTEER SERVICES	187.137-014	Helpful: courses in administration	organizations, institutions
	MANAGEMENT TRAINEE	189.167-018	Helpful: business courses	business or industry
	TOY-DEPARTMENT MANAGER (Trains workers, orders toys, recommends toys for different age groups.)	299.137-010	________	toy & department stores
	COORDINATOR, SKILL-TRAINING PROGRAM	169.167-062	________	govt

Note: See also listings under your minor and under "Any Major."

MORE INFORMATION

Alternative Careers for Teachers by Marna L. Beard and Michael J.McGahey, Arco Publishing, Inc., New York, 1985.

Job possibilities in career fields ranging from physical education to geography and physics, plus---career-change considerations and organizations to contact.

American Council on the Teaching of Foreign Languages, 6 Executive Boulevard, Yonkers, New York 10701.

American Federation of Teachers (AFT), 555 New Jersey Avenue, N.W., Washington, D.C. 20001. Ask for *Teaching as a Career*.

American School Health Association, 1521 S. Water Street, P.O. Box 708, Kent, Ohio 44240.

American Society for Training and Development, P.O. Box 1443, 1630 Duke Street, Alexandria, Virginia 22313.

Association for Childhood Education International, 11141 Georgia Avenue, Suite 200, Wheaton, Maryland 20902.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Recreation Leader	357
Rehabilitation Counselor	430
School Counselor	429
Teacher, Elementary School	10
Teacher, Preschool	275
Teacher, Special Education	110
Teacher, Trade and Technical	404

Careers in Teaching by Glen W. Cutlip and Robert J. Shockley. The Rosen Publishing Group, Inc., New York 1988.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask to hear one of the following tape numbers.

812	*Elementary Education*
815	*Special Education*
816	*Special Education With an Emphasis in the Educable and Trainable Mentally Handicapped*
817	*Special Education With An Emphasis in Hearing Impaired*
818	*Special Education With An Emphasis in High Incidence Handicapped*
819	*Special Education With an Emphasis in Visually Handicapped*
861	*Special Education With An Emphasis in Physically Handicapped*

National Association for the Education of Young Children, 1834 Connecticut Avenue, N.W., Washington, D.C. 20009.

National Council for Accreditation of Teacher Education, Washington, D.C. 20006. Ask for the *Annual List of Accredited Institutions for Preparation of Elementary and Secondary School Teachers*.

National Education Association, 1201 16 Street, N.W., Washington, D.C. 20036.

Occupational Outlook Handbook Reprint: *Education, Social Service and Related Occupations*, 2300-5. Available from the Superintendent of Documents, GPO, Washington, D.C. 20402, or read the same material in the *Occupational Outlook Handbook* at your library.

Requirements for Certification of Teachers, Counselors, Librarians, Administrators for Elementary Schools, Secondary Schools, Junior Colleges (updated annually). Edited by Mary Paxton Burks. The University of Chicago Press, Illinois.

ENGLISH

English includes the study of English language and literature and the advanced development of basic communications skills: reading and listening critically, speaking, and writing.

Since the ability to write and speak clearly is needed in almost any line of work, English is recommended as a minor with whatever major you may choose. Ideas, however brilliant, are not of much use unless they can be communicated.

If you major in English, you will study history, philosophy, psychology, and other liberal arts courses for an understanding of the modern world; and for comparative purposes, a foreign language. You may specialize in English literature or comparative literature, speech, or writing. Communications courses are needed for work in the media or in public relations. Courses in graphics and printing processes are helpful if you are interested in publishing. Some schools offer the advantage of practical broadcasting experience.

It is wise to develop an area of expertise. If you want to write, you need subject matter, something to say, something to write about. Technical courses, such as computer science, can increase employment possibilities, since writers are needed to interpret technical information to the public. However, for technical writing, a major in sciences or engineering with a minor in English is generally preferred to the English major.

Majoring in English provides a background for further study in law, journalism, radio or television communications, public relations, advertising, marketing, business administration, linguistics, cinematic art, dramatic arts, or creative writing.

English majors who do not pursue further study usually go into business or industry, where their skills are helpful in preparing reports, instruction manuals, business letters, environmental-impact statements, grants proposals, news releases, and sales presentations.

MARKETABLE SKILLS

ENGLISH MAJORS

- Influencing others through words
- Conducting literature searches; summarizing and organizing complicated materials
- Presenting material in an original and interesting way, clearly and concisely, with attention to current usage
- Choosing words, idioms, and metaphors to express an idea with the desired nuances or connotations
- Writing in varied styles and forms (plays, film scripts, essays, technical reports, novels, articles, advertisements) as required
- Adapting language to different audiences, translating jargon into readable prose, rewriting material for different reading levels
- Presenting original views and interpretations on various topics
- Reading and listening critically; selecting writings and subject matter for inclusion in a program or publication
- Recognizing propaganda; identifying the devices used to sway an audience
- Holding the attention of an audience, prospect, or client
- Delivering prepared speeches or speaking extemporaneously before groups
- Proofreading and editing: correcting errors of grammar and content; suggesting improvements
- Interpreting or translating a foreign language
- Observing and reporting accurately
- Having something to say and saying it effectively; creatively interpreting and expressing human experience

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	WRITER, PROSE, FICTION AND NONFICTION	131.067-046	fresh ideas, work samples, proposals Helpful: experience on school publications; an area of expertise, such as sports or fashion	book publishers; magazines (news, professional, consumer, sport, hobby, business, trade); freelance
	BIOGRAPHER	052.067-010	outline of proposed work & sample chapters	book publishers, freelance
	ghostwriter	———	portfolio of work samples, such as tapes of speeches	political office holders, & candidates, large companies, freelance
	BOOK CRITIC	131.067-018	sample reviews	magazines, newspapers, freelance
	HUMORIST	131.067-026	sample humorous writing comedy routines, gags, or cartoon ideas	book publishers, magazines, comedians, cartoonists
	LIBRETTIST	131.067-030	portfolio of work samples Helpful: courses in music, poetry, drama	music organizations, music publishers, composers, producers of radio & T.V. programs or of motion pictures
	LYRICIST	131.067-034		
	PLAYWRIGHT	131.067-038	Helpful: showcase production by a theater workshop	theater groups, motion picture & T.V. producers, publishers of plays

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	SCREEN WRITER script writer continuity writer (Writes program scripts, commercials, news.)	131.087-018	work samples Helpful: courses in drama, communications, marketing	T.V. stations or networks, motion picture companies
	WRITER, TECHNICAL PUBLICATIONS technical writer PROCESS-DESCRIPTION WRITER	131.267-026	courses in science, engineering, or technology	publishers of manuals & instruction books, research institutes, professional & trade journals, magazines
	business writer business communicator	————	business courses or experience Helpful: ability to produce audiovisual materials	businesses & industries, business magazines
	NEWSWRITER rewriter	131.267-014	typing skill Helpful: course in communications, journalism, political science	newspapers, radio & T.V. stations & networks
	REPORTER (with possible advancement to work as columnist, correspondent, editorial writer, editor, or reporter with a larger newspaper	131.267-018	availability at all hours, typing skill Preferred: degree in journalism, particularly news-editorial journalism Helpful: summer internship or experience with college paper; courses in sociology, political science, economics, psychology, business, finance; master's degree in journalism	newspapers, radio & T.V. stations (most openings with small, suburban papers & radio stations)

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	COPYWRITER	131.067-014	sample of work or speculative copy; courses in science or engineering for technical advertising Helpful: courses in communications, marketing, visual arts, or design	advertising agencies, retail companies (advertising depts), publishers, chambers of commerce
	TRANSLATOR	137.267-018	proficiency in one or more foreign languages	publishers, research institutes, translating services
	PROGRAM PROPOSALS COORDINATOR	132.067-030	________________	radio & T.V. broadcasting stations
EDITING	EDITORIAL ASSISTANT associate editor MANUSCRIPT READER COPY READER	132.267-014	typing skill Helpful: courses in communications, journalism For Advancement: creative story ideas	book publishers (including textbook); magazines (trade, news, professional, consumer, sport, hobby, alumni, business); company house organs, newspapers
	READER story analyst	131.087-014	typing skill Helpful: courses in communications	motion picture, radio & T.V. companies
	SCRIPT READER	131.267-022	typing skill	radio & T.V. stations

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EDITING	EDITOR, GREETING CARD	132.067-022	________	publishers of greeting cards
	EDITOR, TELEGRAPH (Edits news from teleprinter.)	132.267-010	________	newspapers
	EDITOR, INDEX	132.367-010	________	book publishers
SPEAKING	INTERPRETER escort interpreter (often part-time)	137.267-010	good hearing, articulate, fluency in two or more languages, availability to travel	govt, international organizations or freelance
	ANNOUNCER (sports, news, or weather)	159.147-010	pass taped audition for voice, timing, & pronunciation; knowledge of microphone & camera techniques; knowledge of drama, sports, music, current events; experience with local or campus broadcasting stations. (Check on need for union membership & third-class license to operate transmitting equipment.)	radio & T.V. stations & networks
	DISK JOCKEY	159.147-014		

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERFORMING	ACTOR	150.047-010	courses in dramatic arts, pass audition	producers in theaters, motion picture & T.V. studios
	NARRATOR	150.147-010	courses in speech or dramatic arts, pass audition	producers of education films
	COMEDIAN	159.047-014	Helpful: course in mime	theaters, nightclubs, motion picture & T.V. studios, booking agents, entertainment groups, freelance for parties
	PUPPETEER	159.041-014	Helpful: courses in design, singing, dramatics	
PERSUADING	LAWYER	110.107-010	graduation from law school, passing of written exam (Check on State requirements.)	law or business firms, citizens organizations, govt or independent practice
	LOBBYIST legislative advocate	165.017-010	Helpful: some area of expertise; experience working for a political candidate or a public interest organization; courses in political science, economics, sociology, communications For Advancement: degree in law	corporations, public-interest organizations, political or consumer action groups

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERSUADING	PUBLIC RELATIONS REPRESENTATIVE public information officer	165.067-010	enthusiastic manner; fresh ideas; courses in public relations, journalism, communications, or in a field related to a firm's business; availability to travel & work at any hour Helpful: portfolio of published articles or tapes of programs	large corporations, public relations consulting firms, mfrs, public utilities, transportation or insurance companies, trade & professional associations, educational institutions, health & human service organizations, govt
SELLING	SALES, SERVICE PROMOTER	165-167-010	availability to travel	industries
	LITERARY AGENT	191.117-034	ability to develop contacts with editors	literary agencies--or start own business
	TRAVEL AGENT	252.157-010	travel experiences Helpful: work experience with airlines; courses in psychology	travel or hotel-reservation agencies, auto-rental firms
	SALES REPRESENTATIVE ADVERTISING	254.357-014	________________	newspapers, magazines
	SALES REPRESENTATIVE, PRINTING	254.357-018	knowledge of printing methods	printing firms
	SALES REPRESENTATIVE, PRINTING SUPPLIES	274.357-062	________________	mfrs & distributors of printing supplies

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTIONS	259.157-010		recording services, producers of films & tape programs
	SALES REPRESENTATIVE, RADIO AND TELEVISION TIME	259.357-018		radio & T.V. stations
	SALES REPRESENTATIVE, PUBLICATIONS	277.357-022		publishers & distributors of books & magazines
	SALESPERSON, BOOKS	277.357-034		book & department stores
TEACHING	TEACHER, SECONDARY SCHOOL English teacher, high school	091.227-010	education courses in the teaching of English; certification by State dept. of education; master's degree--in some States after specified period of time Helpful: ability to teach in more than one subject area; willingness to relocate where the jobs are	public & private high schools
	TEACHER, ADULT EDUCATION (usually part-time)	099.227-030	ability to attract students by planning an interesting course of study	night schools, community centers
	teacher of creative writing		samples of published writing	night schools, community centers

MAJOR: ENGLISH

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	teacher of English as foreign language (TEFL) or English as a second language (ESL)	———	Helpful: graduate study of linguistics	schools here or abroad
	TUTOR English tutor (usually part-time)	099.227-034	(Check on need for State teaching certificate.)	tutoring services, colleges, upgrading programs, individual students & parents--here or abroad
	TEACHER, DRAMA	150.027-014	courses in dramatics, speech, theater arts	schools, private dramatic groups, community centers, recreational programs
	LIBRARIAN	100.127-014	1-year master's degree in library science	public libraries, institutions, schools
REHABILITATING	SPEECH PATHOLOGIST	076.107-010	undergraduate concentration in speech with courses in anatomy, physiology, physics, psychology, sociology; master's degree in speech pathology or audiology (Check on State requirements.)	schools, clinics, industries, govt
	AUDIOLOGIST	076.101-010		

Note: Other possibilities? Check also under "Any Major," "Communications," Arts--Performing," and "Languages."

MORE INFORMATION

American Newspaper Publishers Association Foundation, The Newspaper Center, P.O. Box 17407, Dulles International Airport, Washington, D.C. 20041. Ask for *Your Future in Daily Newspapers*.

American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, Maryland 20852.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for English Majors*.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask for tape no. 838, *English* or tape no. 835, *Communication Studies*.

International Association of Business Communicators, 870 Market Street, Suite 940, San Francisco, California 94102. Ask for *Business Communication as a Career*.

Jobs for English Majors and Other Smart People by John L. Munschauer. Peterson's Guides, Princeton, New Jersey, 1986.

How to put a liberal arts degree to work.

Linguistic Society of America, 1325 18 Street, N.W., Suite 211, Washington, D.C. 20036.

Literary Market Place (updated annually), R.R. Bowker Company, New York.

Directory of publishing. Includes publishers (with categories of material published), manufacturers, newspapers, editorial and art services, and related data.

Modern Language Association, 10 Astor Place, New York 10003-6981. Ask for *English - The Preprofessional Major*, 4th edition, by Linwood E. Orange. Fee.

Newspaper and Career Directory second edition. Edited by Ronald W. Fry. The Career Press, Inc., New Jersey, 1988.

Areas of specialization in departments of a newspaper. Experience and education needed, how to enter the field--advice via articles written by people who work in the specialties.

Occupational Outlook Handbook Reprint:	Reprint No.
Sales Occupations	2300-11

Available from the Superintendent of Documents, GPO, Washington, D.C, 20402 or read the same material in your library.

Radio-T.V. News Directors Association, 1717 K Street, N.W., Suite 615, Washington, D.C. 20036. Ask for *Careers in Broadcast News*. (Enclose a 6 x 9" envelope with over-the-rate postage).

Sales and Marketing Executives International, Statler Office Tower, #458, Cleveland, Ohio 44115. Ask for *Opportunities in Selling* and *The Salesperson: Ambassador of Progress*.

Society for Technical Communication, 815 15 Street, N.W., Washington, D.C. 20005. Ask for *Is Technical Writing Your Career?*

U.S. Department of Labor Women's Bureau, 200 Constitution Avenue, N.W., Washington, D.C. 20210. Ask for information about career opportunities.

U.S. Department of State, Bureau of Personnel, Recruitment Division, P.O. Box 9317, Rosslyn Station, Arlington, Virginia 22209. Ask for *Foreign Service Careers*, Booklet #9202, May 1986.

Writer's Digest (updated annually). Edited by Glenda Tennant Neff and Robin Gee. Writer's Digest Books, Ohio.

Profiles and listings (arranged by subject) of organizations which buy written material. Includes specifics of submission and areas of interest.

GEOGRAPHY

Geography is the study of relationships between people and their environment. Geographers measure the Earth's surface and inventory its resources. They find ways to use the planet's limited resources to meet human problems of hunger, overpopulation, and unfair division of land. They improve the distribution of goods and adapt agriculture to different soils and climates.

After an introduction to both social and natural sciences, geography students choose between an emphasis on one or the other: human geography or physical geography and resources management. Human-geography students concentrate on social sciences, such as anthropology, sociology, economics, history, and political science. Physical-geography and resource-management students concentrate on such subjects as biology, geology, hydrology, soil science, conservation, and planning. Some geographers specialize in the geography of one region or in economic, political, urban, agricultural, or medical geography (the distribution of health services and the effects of environment on health).

Most geographers do research or teaching for colleges or universities--work that requires an advanced degree. Since geography embraces both natural and social sciences, an undergraduate degree in geography may be followed by graduate study in such diverse fields as geophysics, botany, or agricultural economics.

Geography students learn to measure and map, using laser equipment, computerized instruments, remote-sensing devices, and photographs taken from planes or satellites. This know-how has many applications: settling boundary conflicts; charting the construction of roads, mines, or real estate developments; and preparing maps used in navigating the ocean, rivers, air, and space.

MARKETABLE SKILLS

GEOGRAPHY MAJORS

- Reading and interpreting maps, charts, and aerial photographs
- Identifying oil-bearing rock formations, agricultural crops, kinds of trees in a forest, spread of insect infestations, weather patterns, or evidence of air pollution from aerial photographs
- Using surveying instruments or various remote-sensing devices to precisely measure contours of land
- Representing facts graphically; designing and constructing easy-to-grasp eye-catching charts, maps, and three-dimensional models to various scales
- Analyzing sites for the presence of resources, such as water, soil, and minerals
- Advising on sources of raw materials, routes and transportation methods for moving goods, and possible markets--worldwide
- Selecting crops that will flourish in a particular soil and climate
- Supplying information on possible effects of changes in the environment--for preparation of environmental-impact statements
- Understanding and expressing complex technical or scientific information
- Integrating diverse facts from different disciplines
- Using advanced mathematics, computer science, and statistics, including frequency and probability studies, to solve problems
- Listening to people's needs and translating them into realistic proposals for action

MAJOR: GEOGRAPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MEASURING AND MAPPING	GEODESIST	024.061-014	courses in geophysics, physics, geology	govt, colleges, universities
	GEODETIC COMPUTER topographic computer	018.167-014	________	govt, colleges, universities
	SURVEYOR, MARINE	018.167-046	________	
	SURVEYOR, MINE	018.167-050	________	
	LAND SURVEYOR (establishing boundaries)	018.167-018	State license or registration	
	DRAFTER, CARTOGRAPHIC	018.261-010	good eyesight Helpful: courses in design, computer science, printing techniques	engineering firms, surveying crews, map publishers, conservation agencies
	DRAFTER, TOPOGRAPHICAL	018.261-014		
	FIELD-MAP EDITOR	018.262-010		
	DIORAMA MODEL MAKER	739.361-010	craft skills	museums, display companies
	PHOTOGRAMMETRIST	018.261-026	courses in physics or engineering	govt
	PHOTOGRAPHER, AERIAL	143.062-014	________	govt

MAJOR: GEOGRAPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MEASURING AND MAPPING	TECHNICAL ILLUSTRATOR	017.281-034	Helpful: portfolio of work, courses in drawing, design	publishers of trade & professional journals, large industrial firms, research labs, govt
	MAP LIBRARIAN	100.167-026	master's degree in library science	libraries
RESEARCHING	METEOROLOGIST	025.062-010	1-year graduate study in meteorology	govt (especially National Oceanic and Atmospheric Administration), consulting firms, airlines, designers of meteorological instruments, utilities, engineering & aerospace firms, radio & T.V. broadcasters, insurance companies
	WEATHER OBSERVER meteorological technician	025.062-010	______	govt
	HYDROGRAPHER	025.264-010	______	govt
	GEOLOGIST	024.061-018	minor or graduate study in geology For Advancement: graduate degree in geology; willingness to travel to Texas, California, Lousiana, Colorado, or Oklahoma, where most of the jobs are	petroleum companies, mining & quarrying companies, construction & consulting firms, govt, colleges & universities, museums & nonprofit research organizations
	SOILS TESTER	029.261-010	______	govt

MAJOR: GEOGRAPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	SEISMOLOGIST	024.061-050	graduate courses in geophysics, geology, physics	govt, universities, oil & mining companies
	TRAFFIC TECHNICIAN	199.267-030		govt
	MARKET-RESEARCH ANALYST pollster public opinion surveyor agricultural marketing analyst	052.067-014	Helpful: courses in economics, marketing	mfg companies, independent advertising agencies, market-research organizations, universities
	DEMOGRAPHER	020.167-026		govt agencies, research organizations
	RESEARCH WORKER, ENCYCLOPEDIA	109.267-014		encyclopedia publishers
MANAGING RESOURCES	URBAN PLANNER land planner transportation planner health-services planner community development specialist	199.167-014	Helpful; courses in economics, architecture, urban & rural sociology Preferred: 1-year master's degree in community planning	govt--public housing authorities & regional planning organizations-- consulting firms, insurance companies, land-development corporations, utilities
	CITY PLANNING AIDE planning assistant	199.364-010	For Advancement: master's degree in community planning or in public administration courses in agronomy & soil science, agriculture or forestry	local govt
	SOIL CONSERVATIONIST	040.061-054	courses in agronomy & soil science, agriculture or forestry	govt, universities

MAJOR: GEOGRAPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING THE ENVIRONMENT	ENVIRONMENTAL ANALYST	029.081-010	courses in physics, chemistry	govt; industries with problems in pollution control, such as utilities, mines
	RADIATION MONITOR	199.167-010	courses in physics	industries, power companies, research labs, govt (at radiation-waste disposal sites)
	AIR ANALYST	012.261-010		industries, govt
	POLLUTION-CONTROL TECHNICIAN	029.261-014		industries, govt
SELLING	TRAVEL AGENT	252.157-010	fluency in languages, travel experiences Helpful: work experience with airlines; courses in psychology	travel agencies, hotel reservation agencies, auto-rental firms
	WHOLESALER II IMPORTER EXPORTER	185.157-018	Helpful: business courses, knowledge of foreign languages	importing or exporting firms
	SALES REPRESENTATIVE, WEATHER-FORECASTING SERVICE	259.357-030		private weather-forecasting services
	TRAFFIC AGENT	252.257-010		transportation companies

MAJOR: GEOGRAPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROSPECTING	GEOPHYSICAL PROSPECTOR	024.061-026	courses in geology, physics, geophysics, or engineering	oil & mining companies
	PHOTOGEOLOGIST	024.061-018		
	OBSERVER, SEISMIC PROSPECTING	010.161-018	courses in physics, geology, electronics	
	OBSERVER, ELECTRICAL PROSPECTING	010.261-014		
	OBSERVER, GRAVITY PROSPECTING	010.261-018		
	SURVEYOR, OIL-WELL DIRECTIONAL	010.261-022		
	SURVEYOR, GEOPHYSICAL PROSPECTING	018.167-042		
	DRAFTER, GEOLOGICAL	010.281-014		
	DRAFTER, GEOPHYSICAL	010.281-018		
	LEASE BUYER	191.117-030		
	PERMIT AGENT, GEOPHYSICAL PROSPECTING	191.117-042		
APPRAISING	APPRAISER, LAND APPRAISER, OIL AND WATER	188.167-010		govt

MAJOR: GEOGRAPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING AND COUNSELING	TEACHER, SECONDARY SCHOOL junior high or high school teacher, geography, social studies, area studies, earth science, or environmental education	091.227-010	certificate with State department of education; master's degree--in some States after specified period of time Helpful: ability to teach in more than one subject area, willingness to relocate where the jobs are	public & private high schools & junior high schools
	TEACHER (museum)	099.227-038	courses in history, art history, anthropology, botany, anatomy, zoology, physics, astronomy. (Requirements vary with the institution.) Experience working with groups of young people.	museums, zoos, planetariums, botanical gardens
	AGRICULTURAL EXTENSION SPECIALIST cooperative extension service worker	096.127-014	courses in agriculture, agronomy, soil science Helpful: experience working with groups, courses in journalism	govt--mostly counties; State extension services at land grant universities
	GUIDE, TRAVEL tour guide	353.167-010	travel experiences, knowledge of languages	travel services
	WORLD-TRAVEL COUNSELOR	238.167-014	fluency in languages, travel experiences	corporate travel depts, travel clubs

Note: Other first jobs that may be open to you are listed under your minor and under "Any Major."

MORE INFORMATION

American Congress on Surveying and Mapping, 210 Little Falls Street, Falls Church, Virginia 22046. Ask for *Careers: Cartography, Geodesy, Surveying*.

American Geographical Society, 156 5 Avenue, Suite 600, New York, New York 10010.

American Geological Institute, 4220 King Street, Alexandria, Virginia 22302.

American Meteorological Society, 45 Beacon Street, Boston, Massachusetts 02108. Ask for *The Challenge of Meteorology*.

American Planning Association, 1776 Massachusetts Avenue, N.W., Washington, D.C, 20036. Ask for the list, *Colleges and Universities Offering Planning and Related Degree Programs* and request information on careers in planning.

American Society of Photogrammetry and Remote Sensing, 105 North Virginia Avenue, Falls Church, Virginia 22046.

American Society of Travel Agents (ASTA), 1101 King Street, Alexandria, Virginia 22314.

Association of American Geographers, 1710 16 Street, N.W., Washington, D.C. 20009. Ask for:

Careers in Geography
Geography as a Discipline
Geography: Tomorrow's Career

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030.

	Guide No.
Planner	175
Meteorologist	200
Geologist	231

National Geographic Society, 17 and M Streets, N.W., Washington, D.C. 20009.

National Council for Geographic Education, Department of Geography, University of Houston, Houston, Texas 77004.

The Society of Exploration Geophysicists (SEG), P.O. Box 702740, Tulsa, Oklahoma 74170. Ask for *Careers in Exploration Geophysics*.

Soil and Water Conservation Society, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021.

U.S. Geological Survey, Eastern Distribution Branch, Information and Data Services, 12201 Sunrise Valley Drive, Reston, Virginia 22092. Ask for *The United States Geological Survey*.

GEOLOGY

Geology is the study of the Earth's crust; how mountains and continents are formed, shift, and change and what may be found under the surface of the Earth in different rock formations. It is a subject that attracts interest from the general public because it answers puzzling questions about prehistoric events and early life on our planet.

In addition to geology, majors in this field study physics, chemistry, mathematics, computer science, engineering, mineralogy, petrology, biology, and invertebrate paleontology.

Geologists locate underground sources of water and of energy: oil, gas, coal, and geothermal energy (heat from the Earth's interior producing steam to generate electricity). They find likely locations for wells and mines (for iron, copper, gold, tin, zinc, and radioactive minerals, for example), using analyses of surface rocks and of rod-like samples bored from deep in the Earth. Their search is assisted by instruments: gravity meters, seismographs, magnetometers, and Geiger counters.

There are field geologists who spend most of their time exploring and other geologists who work in laboratories and computer centers analyzing specimens and data. Most geologists work in areas where there are large oil or mineral deposits (Texas, California, Louisiana, Colorado, Oklahoma); some work overseas. Construction and engineering firms employ geologists to measure the depth of bedrock and predict the stability, strength, and permanency of rock formations. Other geologists work for quarrying companies, the U.S. Department of the Interior (the U.S. Geological Survey, Bureau of Mines, and Bureau of Reclamation), universities, and museums. A few are specialists in marine geology. An unusual application of geology is in space science; the geology of the moon and planets.

MARKETABLE SKILLS

GEOLOGY MAJORS

- Reading the history of the Earth's crust by studying changes in rocks and the scars left by erosion, glaciers, and volcanic eruptions
- Explaining the origin of natural wonders, such as the Grand Canyon
- Analyzing layers of sedimentary rock and identifying fossil remains to trace the biological history of the Earth
- Determining the age of rocks, landforms, fossils, or archeological finds by measuring radioactive decay
- Determining earthquake-prone areas; predicting volcanic or earthquake activity
- Planning programs to prevent floods and erosion
- Using computers to analyze data
- Determining the distribution of rocks under the earth or ocean surface by examining drill cores
- Conducting geological surveys; measuring and mapping the Earth's surface and subsurface layers
- Tracing the flow of water and oil through rock
- Analyzing and classifying minerals and precious stones; appraising ore deposits
- Using prospecting methods, such as analysis of surface rocks, drilling samples, echoes from test explosions, or variations in the Earth's magnetic and gravitational fields, to recommend likely places to drill for oil or dig for minerals
- Advising on the stability of rock structures underlying proposed construction projects, such as highways, tunnels, dams, airfields, bridges, and buildings

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	GEOGRAPHER, PHYSICAL geomorphologist	029.067-014		govt
	METEOROLOGIST	025.062-010	1-year master's degree in meteorology	govt agencies (weather & environmental protection), consulting firms, airlines, designers of meteorological instruments, utilities, engineering & aerospace firms, radio & T.V. broadcasters, insurance companies
	SEISMOLOGIST	024.061-050	graduate study in geophysics	govt agencies, universities, oil & mining companies
	PALEONTOLOGIST	024.061-042	graduate study in field of paleontology; experience in finding & identifying fossils	universities, museums, research organizations, oil companies
	STRATIGRAPHER	024.061-054		
ASSISTING IN RESEARCH	PALEONTOLOGICAL HELPER	024.364-010		universities, museums
	SCIENTIFIC HELPER	199.364-014		
	PROGRAMMER, ENGINEERING AND SCIENTIFIC	020.167-022		engineering firms, research labs
	SYSTEMS ANALYST, ELECTRONIC DATA PROCESSING	012.167-066	Helpful: extensive programming experience	firms & agencies using data processing

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ASSISTING IN RESEARCH	RESEARCH ASSOCIATE	109.067-014	master's degree as a minimum; usually completion of academic requirements for Ph.D.	colleges & universities, private foundations, govt agencies
ENGINEERING	ENGINEERING GEOLOGIST GEOLOGICAL ENGINEER	024.061-018	______	engineering & architectural consulting firms, govt agencies (for construction, water resources & environmental protection), exploration firms, construction or mining companies, universities
	GEOLOGICAL AIDE	024.267-010	______	petroleum production companies
	SOIL-CONSERVATION TECHNICIAN	040.261-010	______	engineering & architectural consulting firms, govt agencies & construction companies
IDENTIFYING AND TESTING	MINERALOGIST	024.061-038	graduate study in mineralogy	mining companies, universities, govt agencies
	GEMOLOGIST	199.281-010	graduate study in gemology	gem dealers
	ASSAYER	022.281-010	______	mining companies, govt agencies

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
IDENTIFYING AND TESTING	SPECTROSCOPIST	011.281-014		mfrs of metal products, mining companies
	LABORATORY ASSISTANT	024.381-010		petroleum processors, prospecting companies
	LABORATORY ASSISTANT	029.361-018		utilities
	SOILS TESTER	029.261-010		govt agencies
	TEST TECHNICIAN	019.161-014		engineering consulting firms, mfrs of electronic equipment for control or testing
	LABORATORY TESTER	029.261-010		industries
MEASURING AND MAPPING	GEODESIST	024.061-014		govt, colleges, universities
	GEODETIC COMPUTER topographic computer	018.167-014		govt, construction & engineering companies, public utlities, mining & oil companies
	SURVEYOR, MARINE	018.167-046		
	SURVEYOR, MINE	018.167-050		

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MEASURING AND MAPPING	DRAFTER, CARTOGRAPHIC	018.261-010	good eyesight Helpful: courses in design, printing techniques	engineering firms, conservation agencies, map publishers
	DRAFTER, TOPOGRAPHICAL	018.261-014		
	FIELD-MAP EDITOR	018.262-010		
	PHOTOGRAMMETRIST	018.261-026		govt
PROSPECTING	GEOLOGIST, PETROLEUM	024.061-022		oil companies
	GEOPHYSICAL PROSPECTOR	024.061-026		
	PROSPECTOR	024.284-010		self-employment
	OBSERVER, SEISMIC PROSPECTING	010.161-018		oil & mining companies
	OBSERVER, ELECTRICAL PROSPECTING	010.261-014		
	OBSERVER, GRAVITY PROSPECTING	010.261-018		
	SURVEYOR, OIL-WELL DIRECTIONAL	010.261-022		
	SURVEYOR, GEOPHYSICAL PROSPECTING	018.167-042		
	DRAFTER, GEOLOGICAL	010.281-014		

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROSPECTING	DRAFTER, GEOPHYSICAL	010.281-018	________	oil & mining companies
	LEASE BUYER	191.117-030	________	
	PERMIT AGENT, GEOPHYSICAL PROSPECTING	191.117-042	________	
APPRAISING	APPRAISER, LAND APPRAISER, OIL & WATER	188.167-010	________	govt
MINING	TECHNICAL OPERATOR drilling inspector	930.167-010	________	oil & gas companies
	BLASTER	931.261-010	________	mines & quarries
	QUARRY SUPERVISOR, OPEN PIT	939.131-010	________	
PROTECTING THE ENVIRONMENT	SOIL CONSERVATIONIST	040.061-054	courses in agronomy & soil science, agriculture or forestry, microbiology	govt agencies, universities
	SOIL SCIENTIST SOIL FERTILITY EXPERT	040.061-058		
	HYDROLOGIST	024.061-034	Helpful: courses in forestry, meteorology, oceanography, agriculture	govt agencies; industrial research & consulting firms
	DRAINAGE-DESIGN COORDINATOR	005.167-014		
	HYDROGRAPHER	025.264-010		

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING THE ENVIRONMENT	ENVIRONMENTAL ANALYST SOILS ANALYST	029.081-010	Helpful: courses in public administration, sociology, economics, environmental studies	govt agencies (for transportation, health, environmental protection, or agriculture), industries that have pollution problems (as utilities, mines)
	URBAN PLANNER land planner	199.167-014	Helpful: courses in economics, sociology Preferred: 1-year master's degree in community planning	govt agencies, regional planning organizations, insurance companies, utilities, land-development corporations
TEACHING AND COMMUNICATING	TEACHER, SECONDARY SCHOOL high school geology, physics, mathematics, meteorology, or computer-science teacher	091.227-010	certification with State dept of education; master's degree--in some States--after specified period of time	public & private high schools & junior-high schools
	WRITER, TECHNICAL PUBLICATIONS technical writer PROCESS-DESCRIPTION WRITER	131.267-026	____________	publishers of manuals & instruction books (for example, on prospecting), research institutes, journals, magazines, broadcast media, freelance
	PHOTOGRAPHER, SCIENTIFIC (specializing in mineralogy, engineering, or geology)	143.062-026	portfolio of work	research organizations, publishers of scientific journals or books, museums

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING AND COMMUNICATING	TEACHER (museum)	099.227-038	courses in history, art history, anthropology, geology, geography, botany, astronomy, zoology, physics, or astronomy. (Requirements vary with the institution.) Experience working with groups of young people	museums, planetariums, zoos, botanical gardens
	MUSEUM TECHNICIAN	102.381-010		
	EXHIBIT DESIGNER	142.061-058	graduate internship in museum or experience as exhibit artist Helpful: master's degree in art	museums, govt agencies (particularly the National Park Service)
	GUIDE, TRAVEL tour guide	353.167-010	travel experiences, knowledge of languages	travel services
SELLING	SALES ENGINEER, MINING-AND-OIL WELL EQUIPMENT AND SERVICES	010.151-010		suppliers of oil-well equipment & services
	SALES REPRESENTATIVE, OILFIELD SUPPLIES AND EQUIPMENT SALES REPRESENTATIVE, OIL-WELL EQUIPMENT RENTALS	274.357-058		

MAJOR: GEOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, ARCHITECTURAL AND ENGINEERING SUPPLIES	276.357-010	________	wholesale distributors of engineering supplies
	SALES REPRESENTATIVE, PRECISION INSTRUMENTS	276.357-014	________	wholesale distributors of precision instruments

MORE INFORMATION

American Congress on Surveying and Mapping, 210 Little Falls Street, Falls Church, Virginia 22046. Ask for *Careers: Cartography, Geodesy, Surveying*.

American Geological Institute, 4220 King Street, Alexandria, Virginia 22302. *Geology: Science and Profession*. Fee.

American Geophysical Union, 2000 Florida Avenue, N.W., Washington, D.C. 20009. Ask for *Geophysics: The Earth in Space*.

American Meteorological Society, 45 Beacon Street, Boston, Massachusetts 02108. Ask for *The Challenge of Meteorology: Career Opportunities* and a list of colleges and universities.

American Society of Civil Engineers (ASCE), 345 E. 47th Street, New York, New York 10017-2398. Ask for *Is Civil Engineering For You*? Contact ASCE Student Services Department for names and addresses of all schools offering accredited civil engineering programs.

American Society of Photogrammetry and Remote Sensing, 105 North Virginia Avenue, Falls Church, Virginia 22046.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030.

	Guide No.
Planner	175
Meteorologist	200
Geologist	231

Council for the Advancement of Science Writing, 4 Billingham Street, Sommerville, Massachusetts 02144. Ask for *A Guide to Careers in Science Writing*.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Physical Science Majors*.

National Oceanic and Atmospheric Administration, 14 Street and Constitution Avenue, N.W., Washington, D.C. 20230.

The Society of Exploration Geophysicists (SEG) P.O. Box 702740, Tulsa, Oklahoma 74170. Ask for *Careers in Exploration Geophysics*.

Society of Mining Engineers, Inc., P.O. Box 625005, Littleton, Colorado 80162.

Soil and Water Conservation Society, 7515 N.E. Ankeny Road, Ankeny, Iowa, 50021 (publishers of *Conservation Careers*).

U.S. Civil Service Commission, Washington, D.C. 20415. Ask for *Engineering, Physical and Mathematical Sciences and Related Professions: Opportunities in the Federal Government*, Announcement No. 424, published annually.

U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585. Ask for *Professional Energy Careers*.

U.S. Department of the Interior, Bureau of Reclamation, Office of Public Affairs, 18th and C Streets, N.W., Washington, D.C. 20240. Ask for *Career Opportunities: Bureau of Reclamation*.

U.S. Environmental Protection Agency, National Workforce Development Staff, 401 M Street, S.W., Washington, D.C. 20460. Ask for *Career Opportunities in the Environmental Protection Agency*.

U.S. Geological Survey, Eastern Distribution Branch, Information and Data Services 12201 Sunrise Valley Drive, Reston, Virginia 22092. Ask for *The United States Geological Survey*.

HISTORY

History is the study of change. Historians are experts in cause and effect. Exploring records of the past--how social processes evolved through time--gives a unique perspective on the present and the future. Understanding how problems originated and developed makes it easier to deal with them today.

Historians specialize in one area of the world and one period of time or in one group of people, a particular field--such as the development of technology, or an area of conflict--such as energy use or population control.

Coursework includes economics, sociology, political science, anthropology, and philosophy. Business courses--management, finance, accounting--are helpful for practical applications; and statistics is needed for research. Double majors are possible. For example, a student may combine history with Latin American area studies and coursework in Spanish and Portuguese.

A bachelor's degree in history is not sufficient preparation for work as a historian but does lead to jobs requiring a liberal arts degree and is a fine background for further education in law, urban planning, archeology, politics, or public administration. To work as a historian, a student needs to obtain an advanced degree, a Ph.D. degree for teaching and research in a college or university.

Some historians are employed by local governments to preserve group memories and foster pride in community heritage. Others, working for government or conservation organizations, identify culturally significant buildings and plan ways to save them. When a historic building must be torn down, they document the site through photographs, drawings, and descriptions so that information about that part of history is not lost.

Large firms hire corporate historians to preserve company documents, publish a record of the firm's contributions and achievements, and prepare exhibits of the company's historical collection. Today's paperwork is tomorrow's history, and historians help decide what should be saved.

Applied historians use their knowledge of trends to assist in decision-making. They predict the results of alternative actions, weigh costs against benefits, write environmental impact statements, and do evaluation research to assess the effectiveness of social programs. Some applied historians are consultants; advising corporations, for example, on the effects new trade regulations will have on their business. Tracing problems back to their origins and examining the results of past attempts to resolve them makes it easier to select contemporary solutions that will work.

MARKETABLE SKILLS

HISTORY MAJORS

- Making use of past experiences in reaching current decisions
- Bringing historical perspective to contemporary issues in education, labor, urban development, public finance, and health; providing insight into problems by supplying information as to how they developed and were dealt with in the past.
- Following trends to predict shifts in political views or consumer tastes
- Monitoring profit cycles and changes in government policies to provide up-to-date business information
- Managing information; finding, collecting, and evaluating data; organizing voluminous collections of letters and papers, including business records
- Reading rapidly and extracting relevant data
- Using statistical methods and computers to analyze the results of research
- Interviewing: eliciting information from people outside an organization and supplying it to people on the inside
- Finding the key questions involved in an issue, weighing evidence and opinions, and reaching a conclusion
- Documenting a conclusion and presenting it clearly, either through speech or writing
- Selecting, preserving, and making available for use historically valuable artifacts, records, and buildings
- Keeping group memories alive through writing, filmmaking, or the preparation of dioramas and photographic exhibits

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EDUCATING	TEACHER (museum)	099.227-038	courses in history, art history, anthropology, geology, geography, botany, anatomy, ecology, physics, or astronomy. (Requirements vary with the institution.) Experience working with groups of young people	museums, planetariums, zoos, botanical gardens
	TEACHER, SECONDARY SCHOOL history teacher, high school	091.227-010	education courses in the teaching of history; certification with State dept of education; master's degree--in some States after specified period of time Helpful: ability to teach in more than one subject area	public & private high schools
	GUIDE, TRAVEL tour guide	353.167-010	travel experiences, knowledge of languages, geography	travel services including associations, private owners of tourist attractions
	GUIDE, ESTABLISHMENT museum guide guide at historical sites	353.367-014	________	museums, govt, historical associations, private owners of tourist attractions
	SCHEDULER	238.367-034	________	museums, zoos, botanical gardens, & planetariums

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COUNSELING	WORLD-TRAVEL COUNSELOR TRAVEL AGENT travel counselor	238.167-014 252.157-010	fluency in languages, travel experiences Helpful: work experience with airlines; courses in geography, psychology	corporate travel depts, travel agencies, travel clubs, hotel reservation agencies, auto-rental firms
RESEARCHING	HISTORICAL ARCHEOLOGIST	055.067-018	graduate degree in archeology	colleges, universities, museums
	GENEALOGIST	052.067-018		private genealogy services
	MARKET-RESEARCH ANALYST pollster public opinion surveyor	052.067-014	Helpful: courses in economics, marketing	mfg companies, independent advertising agencies, market-research organizations, universities
	SURVEY WORKER	205.367-054		
	DEMOGRAPHER	020.167-026	courses in statistics	govt agencies, research organizations
	RESEARCH ASSISTANT (Researches historical sites to prepare dioramas.)	109.267-010	graduate internship in museum	museums
	RESEARCH WORKER, ENCYCLOPEDIA	109.267-014		encyclopedia publishers
	LEGISLATIVE ASSISTANT	169.167-066		legislative offices

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	RESEARCH ASSOCIATE	109.067-014	master's degree as a minimum, usually completion of academic requirements for Ph.D.	colleges & universities, private foundations, govt agencies
	HISTORIAN, DRAMATIC ARTS (Researches locale for dramas.)	052.067-026	Helpful: experience in dramatics; courses in theater arts, communications	theatrical-equipment companies, T.V. broadcasters, motion picture companies
MANAGING CULTURAL RESOURCES	SUPERVISOR, HISTORIC SITES	102.117-010	graduate degree in history or archeology Helpful: courses in public administration, communications, early American arts & culture	historical societies, govt--including U.S. Department of Interior, some State park services, city landmark preservation commissions
	HISTORIC-SITE ADMINISTRATOR	102.167-014	____	historical societies, govt agencies
	PARK RANGER (assigned to historic landmarks)	169.167-042	____	govt
	MUSEUM ATTENDANT	109.367-010	____	museums
APPRAISING, CATALOGING, AND CARING FOR COLLECTIONS	APPRAISER, ART	191.287-014	courses in art history; 6-month internship Helpful: courses in insurance, foreign languages	antique dealers, art galleries, museums, universities, insurance companies

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
APPRAISING, CATALOGING, AND CARING FOR COLLECTIONS	ARCHIVIST (Prepares bibliographies, catalogues manuscript exhibits, selects & edits unpublished work of authors.)	101.167-010	1 year graduate study in history or archeology Helpful: courses in library & computer science; internship with a library, museum, or historical society	universities, colleges, museums, special libraries, historical & archeological societies
	LIBRARIAN, SPECIAL COLLECTIONS	100.267-014	master's degree in library science	universities, colleges, public libraries, institutions
	LIBRARIAN, MORGUE	206.387-018	____________	newspapers, magazines
	RECORDS-MANAGEMENT ANALYST	161.267-022	courses in information science or computer science	businesses
	PROPERTY-DISPOSAL OFFICER	163.167-026	Helpful: merchandising course or experience	businesses, industries, govt
	CONSERVATOR, ARTIFACTS	055.381-010	master's degree in museology (museum studies)--3 years, including internship--some fellowships available with stipend Helpful: physics, chemistry	universities; museums--art, archeology, history, natural history
	ART CONSERVATOR	102.167-010		

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
APPRAISING, CATALOGING, AND CARING FOR COLLECTIONS	CONSERVATION TECHNICIAN	102.261-010	______________	universities, museums--arts, archeology, history, natural history
	MUSEUM TECHNICIAN	102.381-010		
	ARMORER TECHNICIAN	109.281-010		
	DOCUMENT RESTORER	979.361-010	courses in chemistry, physics, botany, photography, art history; museum internship	museums, libraries, archives, private & public historical societies, film collections
	RESTORER, PAPER AND PRINTS	109.361-010		
DESIGNING EXHIBITS	EXHIBIT ARTIST	149.261-010	art courses, portfolio	public & private museums, planetariums
	MANAGER, DISPLAY (Develops window & interior displays for stores.)	142.031-014	experience in designing & lighting museum displays	retail stores
	SET DESIGNER (Designs sets with appropriate period style.)	142.061-046 142.061-050	Helpful: courses in communications, theater arts, art history	motion picture companies, T.V. broadcasters, theaters
	EXHIBIT DESIGNER	142.061-058	graduate internship in museum or experience as exhibit artist Helpful: master's degree in art; courses in architecture, engineering, museum studies, art history	museums, planetariums, zoos, botanical gardens, commercial exhibit & display-fabrication firms, govt agencies (particularly the National Park Service)

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PHOTOGRAPHING AND DRAWING	PHOTOGRAPHER, SCIENTIFIC	149.281-010	experience photographing fragile documents, antiques, or historical sites	museums, archives, hospitals, industrial labs, research organizations, advertising agencies, commercial photographic studios
	FURNITURE REPRODUCER (Prepares drawings & templates of antique furniture & specifies wood & finish to be used.)	149.281-010	courses in drafting, knowledge of various woods & finishes	furniture mfrs specializing in antique reproductions
MODEL MAKING	DIORAMA MODEL MAKER	739.361-010	craft skills	museums, display companies
	MINIATURE-SET CONSTRUCTOR	962.381-018	experience constructing historical-site models	motion picture & T.V. producers
WRITING	BIOGRAPHER	052.067-010	________________	magazines, book publishers--museum publications
	WRITER, PROSE, FICTION AND NONFICTION writer, historical novels	131.067-046		
	EDITORIAL ASSISTANT	132.267-014	Helpful: courses in communications, journalism	magazines, newspapers, book publishers, museum publications

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING HISTORICAL PRESERVATION	PUBLIC-RELATIONS REPRESENTATIVE public & press relations officer public information officer	165.067-010	courses in public relations, journalism, or communications Helpful: portfolio of published articles or tapes of speeches	museums, educational
	FUND RAISER I	293.157-010	demonstrable ability to bring in contributions or memberships	museums, historical & conservation organizations
APPLYING HISTORY TO CONTEMPORARY PROBLEMS	CITY PLANNING AIDE	199.364-010	For Advancement: master's degree in community planning or in public administration	local govts
	URBAN PLANNER city, community, or regional planner	199.167-014	Preferred: 1-year master's degree in community planning	regional planning organizations, consulting firms, public housing authorities & other govt agencies
	CONSULTANT	189.167-010	advanced degree	businesses, industries, consulting firms
	HISTORIAN environmental historian (Reviews applications for construction projects, writes environmental impact statements, suggests ways to save historical sites.)	052.067-022	advanced degree in history Helpful: courses in architecture or enginering	govt

MAJOR: HISTORY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALESPERSON, STAMPS OR COINS	277.357-062	Helpful: courses in the classics, art history, economics, archeology	coin dealers, department stores, stamp dealers
	SALESPERSON, ART OBJECTS	277.457-010		art dealers, galleries
	GUIDE, REAL ESTATE	297.667-010	For Advancement: State license as agent	real estate firms specializing in historic properties
	EXHIBIT-DISPLAY REPRESENTATIVE	297.367-010		museums, businesses
	AUCTIONEER	294.257-010	Helpful: experience as Auction Assistant, familiarity with antiques or art	auctioneering firms

Note: History majors use the past as a data source for many current problems. See also the listings under "Any Major."

MORE INFORMATION

Applied History and Social Science Program, Porter Hall 319E, Carnegie-Mellon University, Schenley Park, Pittsburgh, Pennsylvania 15213. Ask for information on the graduate program in applied history.

The American Planning Association, 1313 East 60 Street, Chicago, Illinois 60615.

American Association of Museums, 1055 Thomas Jefferson Street, N.W., Washington, D.C. 20007.

American Association for State and Local History, 1400 8 Avenue South, Nashville, Tennessee 37203.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Political Science and History Majors*.

Education Services Division, National Trust for Historic Preservation in the United States, 740-748 Jackson Place, N.W., Washington, D.C. 20006.

History Department, University of Maryland, College Park, Maryland 20742. Ask for available career information.

INTAC tape series, Northern Illinois University. Phone 815/752-0414 and ask for tape no. 842, *History*.

Museum Reference Center, Office of Museum Programs, Arts and Industries Building, Room 2235, Smithsonian Institution, Washington, D.C. 20560. Ask for *Museum Studies Programs in the United States and Abroad*.

National Coordinating Committee for the Promotion of History, 400 A Street, S.E., Washington, D.C. 20003.

Secretary, Graduate Program in Public Historical Studies, Department of History, University of California, Santa Barbara, California 93106. Ask for the brochure, *Public Historical Studies*.

Winterthur Program in Early American Culture, University of Delaware, Newark, Delaware 19711. Ask for information on the graduate program in early American history.

HOME ECONOMICS

Consumer Economics or Human Ecology

Home economics deals with our basic needs for food, clothing, shelter, and human relationships. Home economists use the natural and social sciences and artistic design to improve the quality of life. They advise people how to select and prepare food, buy clothes, furnish homes, raise children, resolve family disagreements, protect health, manage money, and make wise choices as consumers.

Home economists work either for public interest groups, schools, and service organizations or they help manufacturers persuade customers to buy products. In this country, there is a growing interest in diet and health food; and many home economists work in our largest industry--food production. They demonstrate food preparation, develop new recipes, run test kitchens, and prepare food so that it is attractive for television commercials.

According to the American Home Economics Association, about 350 United States colleges and universities offer degrees in home economics. An examination of catalogs is necessary to see which specializations are available. Some of the choices are:

Home-economics education
Food and nutrition
Housing, furnishings, and equipment
Design (of textiles, garments, interiors, or products); photography; or illustration
Human development and family relationships
Family economics and home management
Institution administration

In addition to these subjects, home economics majors study economics, statistics, communications, psychology, sociology, chemistry, biology and biochemistry. Courses in finance, mathematics, consumer education, and consumer law are helpful. Recommended minors are: business administration or marketing, communications, public speaking, psychology, sociology, economics, visual arts, biochemistry, one of the health sciences, or agriculture.

Home economics is often used as a basis for graduate study in social work, law, medicine, business, or hospital administration, marketing, or finance. It is a field that applies current knowledge to the solution of everyday problems and responds to today's social issues: international poverty and hunger, inadequate housing, energy shortages, environmental pollution, population growth, and changes in sex roles and human relationships.

MARKETABLE SKILLS

HOME ECONOMICS MAJORS

- Teaching sewing, cooking, and child care; or developing educational materials
- Advising people on how to select and prepare food, furnish homes, buy clothes, protect health, raise children, manage money, and make wise consumer choices
- Demonstrating home equipment, food preparation, or sewing techniques
- Training the handicapped to be self-sufficient
- Supervising care of children, the elderly, or the handicapped
- Planning healthful meals and directing their preparation
- Managing a restaurant, hotel, or institution
- Establishing a realistic budget and operating within it
- Developing new methods of food preparation and new recipes
- Selecting furnishings for utility and beauty
- Distinguishing between good merchandise and good sales talk
- Testing consumer products, recipes, appliances, or raw materials.
- Designing clothes, fabrics, furnishings, appliances, or interiors
- Applying scientific knowledge to the processing, preserving, packaging, distribution, or storage of food products
- Interviewing consumers
- Sorting and tabulating data
- Analyzing and interpreting research results, the effectiveness of social service programs, or the impact of technology on people
- Predicting consumer trends, projecting the demand for established or new products

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	TEACHER, SECONDARY SCHOOL home-economics or consumer-economics teacher	091.227-010	education courses in the teaching of home economics; certification with State dept of education; master's degree in some States after specified period of time	public & private high schools
	INSTRUCTOR, VOCATIONAL TRAINING	097.227-014	experience in food or garment industries or in child care (Check on State requirements for secondary schools.)	schools, industrial plants
	TEACHER, PRESCHOOL	097.227-018	concentration on early childhood education	nursery school, daycare centers
	TEACHER, HANDICAPPED STUDENTS-- (any age, any grade level) special education teacher (Provides basic instruction in a small class.) resource specialist (Provides supplementary instruction enabling handicapped student to remain in regular classroom; often travels to schools or homes.)	094.227-018	patience & perseverance, basic teaching certificate plus a specialist certificate (Courses include specialized teaching methods.)	regular public schools, special schools & institutions for the disabled of any age from preschool to adult
	ORIENTATION THERAPIST FOR THE BLIND (Assists newly blinded patients acquire skills for daily living.)	076.221-010	completion of a certified training course, internship, or program in peripatology	State social-service depts; schools, organizations & institutions for the blind

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	DIETITIAN, TEACHING	077.127-022	concentration in foods & nutrition or dietetics; 1-year internship; graduate degree	schools of nursing or medicine, colleges, universities
HELPING PEOPLE	FOOD-MANAGEMENT AIDE (Advises low-income-family members how to budget, shop, prepare balanced meals, & store food safely.)	1956.367-022		govt agencies (as Farm Bureau Extension Service), private service organizations
	CASE AIDE	195.367-010		
	HOME HEALTH TECHNICIAN (As part of health-care team, assists patients & their families with household management.)	079.224-010		patient aftercare services
	DIETITIAN, CLINICAL	077.127-014	concentration in foods & nutrition or dietetics, 1-year internship, registration by the American Dietetics Association	hospitals, nursing homes
	COMMUNITY DIETITIAN NUTRITIONIST, PUBLIC HEALTH	077.127-010	advanced degree in nutrition or dietetics	institutions, service organizations, public health agencies
	COUNTY HOME-DEMONSTRATION AGENT	096.121-010	Helpful: courses in public speaking & communications	govt agencies

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
HELPING PEOPLE	CASEWORKER, CHILD WELFARE	195.107-014	1-year master's degree in social work	public assistance & family-service organizations, institutions, adoption agencies
	CASEWORKER, FAMILY	195.107-018		
DESIGNING	CLOTH DESIGNER textile designer	142.061-014	original ideas, samples of work, knowledge of fabrics & of textile mfg processes	textile mfrs (few openings)
	ASSISTANT DESIGNER	781.361-010	original ideas, courses in fashion design, samples of work	garment mfrs.
	MILLINER	784.261-010		
	COSTUME DESIGNER	142.061-018	concentration in clothing design; courses in theater arts; for T.V.--technical knowledge of color transmission	theaters, motion picture companies, T.V. producers
	home lighting consultant	———	———	interior-design firms, lighting companies, freelance
	lighting designer	———	imaginative lighting ideas Helpful: courses in theater arts, engineering	interior designers, hotels, discotheques, freelance
	FURNITURE DESIGNER	142.061-022	course in furniture styles & design	furniture mfrs

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING	SET DESIGNER	142.061-046 142.061-050	Helpful: courses in theater arts, drafting, communications; work on set design for school productions	motion picture companies, T.V. producers, theaters (starting with summer stock or repertory)
	DISPLAYER, MERCHANDISE WINDOW DRESSER	298.081-010	______	retail stores
INSPECTING AND TESTING	FOOD TESTER	029.361-014	______	food processors, govt
	INSPECTOR, AGRICULTURAL COMMODITIES	168.287-010	(Check on need for U.S. Dept of Agriculture license for product inspected.)	govt
	FOOD AND DRUG INSPECTOR	168.267-042	______	govt
	consumer safety inspector (Inspects for flammable clothing.)	______	______	govt
	INSPECTOR, FURNITURE AND BEDDING	168.267-046	______	govt
	INSPECTOR, HEATING AND REFRIGERATION	168.167-046	______	govt
	RATER, TRAVEL ACCOMODATIONS	168.367-014	______	travel guide publishers, travel clubs, tourism promoters

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	TESTER, FOOD PRODUCTS (Develops new recipes.)	199.251-010		mfrs of food products
	FOOD TECHNOLOGIST food scientist	041.081-010	advanced degree in food technology including engineering courses	
	RESEARCH HOME ECONOMIST TEST-KITCHEN HOME ECONOMIST	096.121-014	advanced degree	
	ANALYST, FOOD AND BEVERAGE	310.267-010	courses in business administration or restaurant management	restaurants, industries with employee food services, hotels
	MARKET-RESEARCH ANALYST I	050.067-014	Helpful: courses in political science, marketing, psychology For Advancement: master's degree in business administration, marketing research, statistics, political science, or psychology	mfrs of food products, textiles, or garments; advertising agencies; research organizations; universities; govt
	URBAN PLANNER	199.167-014	1-year master's degree in community planning Helpful: courses in architecture	local govts

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING BUSINESSES	MANAGEMENT TRAINEE	189.167-018	________________	consumer industries & businesses
	DIETETIC INTERN menu planner	077.167-010	concentration in foods & nutrition or dietetics For Advancement: completion of 1-year internship	school food services, colleges, hospitals, restaurants, nursing homes, industrial cafeterias, food processors, advertising agencies, newspapers, equipment mfrs, utility companies, professional & trade assocs, industrial plants, recreational & tour services, supermarket chains, govt public-health programs (as school-lunch & food-stamp)
	WINE MAKER enologist	183.161-014	concentration in food technology with courses in chemistry & enology Helpful: courses in business administration	vineyards, wineries
	DIETARY MANAGER	187.167-206	competency certificate may be required	hospitals, nursing homes & related facilities
	DIRECTOR, FOOD AND BEVERAGE	187.167-210	________________	amusement parks
	MANAGER, INDUSTRIAL CAFETERIA	319.137-018	Helpful: business courses	industrial plants

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING BUSINESSES	MANAGER, HOTEL OR MOTEL	187.117-038	Helpful: business administration courses	hotels, motels
	MANAGER, FOOD SERVICE	187.167-106	Helpful: business administration courses	hotels, restaurants, restaurant chains, cafeterias, coffee shops, catering services
	MANAGER, FOOD PROCESSING PLANT	183.167-026	Helpful: business administration courses	food processors
	MANAGER, HANDICRAFT OR HOBBY SHOP	187.161-014	Helpful: business administration courses	handicraft, hobby, or needlework shops
	MANAGER, BAKERY	189.117-046	Helpful: business administration courses	wholesale & retail bakeries
	FOOD-SERVICE SUPERVISOR	319.137-010	Helpful: courses in business administration	restaurants, cafeterias, hotels, hospitals, nursing homes, schools, colleges
	KITCHEN SUPERVISOR	319.137-030	Helpful: business administration courses	
	MANAGER, FLIGHT KITCHEN	319.137-014	Helpful: courses in business administration	airlines

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	COPYWRITER (Writes advertisements, commercials, publicity releases, sales-promotion materials, trade-journal articles about consumer products & services.)	131.067-014	"how I'd do it" sample based on knowledge of product Helpful: courses in communications, marketing, visual arts, or design	advertising agencies, retail companies (advertising depts), publishers, chambers of commerce, professional & trade assocs
	WRITER, PROSE, FICTION AND NONFICTION (writing on food, health, fashion, decorating, childcare)	131.067-046	work samples, typing skill Helpful: experience on school publications	general-interest & consumer magazines, book publishers, newspapers, or freelance
	WRITER, TECHNICAL PUBLICATIONS	131.267-026	work samples, typing skill	nutrition or textile journals, publishers of instruction books for household appliances, trade journals for food & garment industries, broadcast media
PROMOTING	HOME ECONOMIST, CONSUMER SERVICE consumer-information specialist energy advisor FASHION CONSULTANT fashion sewing consultant (Provides consumer information & designs how-to-care labels.) EQUIPMENT SPECIALIST PRODUCT REPRESENTATIVE TEST-KITCHEN HOME ECONOMIST	096.121-014	Helpful: courses in public speaking & communications	public service, consumer education, & advertising depts of equipment, food, textile, dress-pattern, & clothing companies; utilities; newspapers & magazines; T.V. & radio stations & networks; advertising agencies.
	TESTER, FOOD PRODUCTS	199.251-010		mfrs of food products

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	FASHION COORDINATOR (Promotes new fashions & organizes fashion shows.)	185.157-010	concentration in dress design or home-economics communications Helpful: courses in theater arts	garment wholesalers
	SAMPLE-ROOM SUPERVISOR	299.137-018		textile distributors
	EXTENSION SERVICE SPECIALIST HOME ECONOMICS SPECIALIST copperative extension service worker	096.127-014	concentration in home-economics communications	govt agencies, State extension services at land grant universities
	COMMUNITY RELATIONS AND SERVICES ADVISOR, PUBLIC HOUSING	195.167-014	master's degree in social work--usually	low-income public housing developments
	PUBLIC RELATIONS REPRESENTATIVE PUBLIC INFORMATION OFFICER	165.067-010	enthusiastic manner, fresh ideas, concentration in home-economics communications, portfolio of work or tapes	mfrs of food or clothing products, utilities, health- & human-service organizations, retailers, govt
	GUIDE, PLANT plant tour guide	353.367-018		food mfrs & utilities offering public tours
	FOOD DEMONSTRATOR HOUSEWARES DEMONSTRATOR	297.354-010		wholesale food & houseware distributors, retail stores

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	DEMONSTRATOR, KNITTING	297.354-014	______	yarn & hobby stores
	DEMONSTRATOR, ELECTRIC-GAS APPIANCES	297.357-010	______	utilities
	DEMONSTRATOR, SEWING TECHNIQUES	297.454-010	______	department stores, sewing-machine stores
	GUIDE, REAL ESTATE	297.667-010	______	real estate firms
	CRAFT DEMONSTRATOR living history model (Demonstrates carding, spinning, weaving, dyeing.)	109.364-010	Helpful: courses or experience in dramatics	farm & folklore museums, community restorations, historic sites, govt historic parks, private reconstructions
	WEDDING CONSULTANT	299.357-018	______	department stores
BUYING AND SELLING	PURCHASING AGENT BUYER, FOOD BUYER, FISH BUYER, MAPLE SYRUP PIECE-GOODS BUYER	162.157-038	Helpful: courses in purchasing	hotels, restaurants, food processors & canneries, garment mfrs
	PERSONAL SHOPPER	296.357-010	______	department stores
	COMPARISON SHOPPER	296.367-014	______	department stores, wholesalers

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING AND SELLING	AUCTIONEER, FURNITURE	294.257-010	Helpful: experience as auction assistant	used & antique furniture dealers, auctioneering firms, or self-employment
	LINEN CONTROLLER (Solicits new business for linen-rental service.)	299.357-010		laundries with a linen-rental service
	SALESPERSON, HOUSEHOLD APPLIANCES	270.357-034		department & hardware stores, utility companies
	SALESPERSON, SEWING MACHINES	270.352-010		sewing-machine retailers
	SALESPERSON, CUSTOM DRAPERIES	270.357-022		decorators, department & fabric stores
	SALESPERSON, WALL COVERINGS	279.357-050		decorators, hardware, wall-paper or department stores
	SALES REPRESENTATIVE, RAW FIBERS	261.357-030	technical knowledge of fibers	fiber wholesalers
	SALES REPRESENTATIVE TEXTILE MACHINERY	274.357-070	courses in engineering	textile mfrs
	SALES REPRESENTATIVE, TEXTILE DESIGNS	274.357-066		textile printers

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING AND SELLING	SALES REPRESENTATIVE, TEXTILES	261.357-030	for industrial textiles--courses in engineering or physics	textile wholesalers
	SALES REPRESENTATIVE, APPAREL TRIMMINGS	261.357-010		trim mfrs & wholesalers
	SALES REPRESENTATIVE, WOMEN'S AND GIRLS' APPAREL	261.357-038		garment mfrs
	SALES REPRESENTATIVE, HOUSEHOLD APPLIANCES	270.357-014		wholesalers
	SALES REPRESENTATIVE, HOME FURNISHINGS	270.357-010		wholesalers
	SALES REPRESENTATIVE, HOBBIES AND CRAFTS	277.357-010		yarn, needlework, or craft stores; mfrs & distributors of supplies & equipment for knitting, weaving, embroidering, or quilting
	SALES REPRESENTATIVE, ELECTRIC SERVICE SALES REPRESENTATIVE, GAS SERVICE	253.357-010		public utilities
	SALES REPRESENTATIVE, FOOD PRODUCTS SALES REPRESENTATIVE, FLOUR AND CEREALS	260.357-014		wholesale distributors of food products

MAJOR: HOME ECONOMICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
BUYING AND SELLING	SALES REPRESENTATIVE, FOOD PRODUCTS SALES REPRESENTATIVE, FLOUR AND CEREALS	260.357-014	____________	wholesale distributors of food products
	COMMISSION AGENT, AGRICULTURAL PRODUCE	260.357-010	(Check on need for State license & bonding.)	agricultural wholesalers
	SALES REPRESENTATIVE, HOTEL AND RESTAURANT EQUIPMENT AND SUPPLIES	275.357-014	____________	equipment mfrs & suppliers
	SALES REPRESENTATIVE, BOTTLES AND BOTTLING EQUIPMENT	274.357-014	____________	equipment mfrs & suppliers

MORE INFORMATION

The American Dietetic Association, 208 S. Lasalle Street, Suite 1100, Chicago, Illinois 60604. Ask for *Dieticians: The Professionals in Nutritional Care*, a list of institutions offering degrees in dietetics, and a list of sources for scholarships.

American Home Economics Association, 2010 Massachusetts Avenue, N.W., Wasnington, D.C. 20036. Ask for the AHEA career packet, *Careers in Home Economics: The Opportunity of a Lifetime*, includes leaflets on "Home Economists in Human Services," and "Home Economists in Business," and "Home Economists in Research."

American Hotel and Motel Association, 888 Seventh Avenue, New York, New York 10106. Ask for *Careers in the Hospitality Industry*.

American Textile Manufacturers Institute, 1801 K Street, N.W., Suite 900, Washington, D.C. 20036. Ask for :

There's a College for You in Textiles (with a list of textile colleges)
There's a Career for You in Textile Administration
There's a Career for You in Textile Manufacturing
There's a Career for You in Textile International Business
There's a Career for You in Textile Marketing and Merchandising

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030.

	Guide No.
Enologist (Wine Maker)	257
Home Economist	212

College of Human Ecology, Office of Admissions, Cornell University, 172 Martha Van Rensselaer Hall, Ithaca, New York 14853. Ask for career brochure and announcement of courses.

The National Executive Housekeepers Association, 1001 Eastwood Drive, Suite 301, Westerville, Ohio 43081. Ask for *Futures in Executive Housekeeping*.

Opportunities in Home Economics Careers by Rhea Shields and Anna K. Williams. VGM Career Horizons, Illinois, 1988.

Jobs, traditional and nontraditional, in various fields--art, interior design, housing, business, human services, communications, journalism,---.

LANGUAGES

Languages are systems for communicating human ideas, feelings, and experiences. Knowledge of a second or third language extends potential communication to other cultures and other parts of the world.

While developing fluency in a language, foreign language majors study the literature and culture of people speaking the language. Travel and study abroad are part of the program. Skill in English is needed in order to translate.

Since opportunities for translators, interpreters, and language teachers are limited, it is recommended that the study of languages be supplemented by courses to develop expertise in other areas such as health careers or journalism. Foreign language students may major in interdisciplinary area studies, learning the history, geography, sociology, and economics of an area whose language they know, or they may choose a double major, combining a language with international studies, political science, or business administration in order to prepare for a career in banking, insurance, import-export, or law.

Languages are essential for international business and banking. With initial experience in the home office of a multinational firm, eventual assignment to a branch abroad is a possibility for the student who knows more than one language. But openings abroad are infrequent because American companies usually prefer native employees for overseas offices. However, new opportunities may be found with the growing number of foreign companies opening branches in our country. These companies look for American workers who can speak the language of the company's home office as well as English.

Languages are helpful in almost any area of work: for scientists, to read the original reports on research done worldwide; for engineers, to assist in projects abroad and supervise workers speaking languages other than English; for health professionals, to talk with patients, determine symptoms, give instructions, and calm fears.

The United States is becoming--increasingly--a country of many cultures. For anyone who meets a multilingual public--interviewing, teaching, selling, or supervising--a knowledge of languages helps to bridge gaps.

MARKETABLE SKILLS

LANGUAGE MAJORS

- Interviewing people of different nationalities
- Making fine verbal distinctions and grasping subtleties of meaning--in English and in other languages
- Considering cultural preference in designing commercial products or planning cities
- Adapting educational programs, publicity, or advertising to the cultural background of the clientele or audience
- Using original publications, rather than translations, for library research
- Analyzing written materials on a variety of subjects and identifying significant facts.
- Selecting appropriate idioms to exchange ideas across language barriers
- Using a large vocabulary correctly
- Instantaneously grasping verbal messages and interpreting them into another language without losing the implications or spirit of the original
- Using correct grammar, punctuation, spelling, and sentence structure and identifying errors

MAJOR: LANGUAGES

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	TEACHER, ELEMENTARY SCHOOL bilingual teacher language teacher	092.227-010	double major with elementary education; teacher's certificate (Check on State requirements.)	elementary schools
	TEACHER, SECONDARY SCHOOL high school language teacher	091.227-010	education courses in the teaching of languages; certification with State dept. of education; master's degree--in some States, after specified period of time	public & private high schools
	TEACHER, ADULT EDUCATION language teacher or teacher of English as a second language	099.227-030	Helpful: graduate study in linguistics	schools, community organizations
	TUTOR	099.227-034	____________	tutoring services, colleges, upgrading programs, individual students & parents--freelance
COUNSELING	FOREIGN-STUDENT ADVISOR	090.107-010	master's degree in student personnel work, fluency in foreign languages	colleges & universities
	WORLD-TRAVEL COUNSELOR	238.167-014	Helpful: work experience with airlines, familiarity with the Overseas Airlines Guide, courses in geography, literature, history, psychology	corporate travel depts, travel agencies, travel clubs, hotel-reservation agencies, auto-rental firms
	TRAVEL AGENT travel counselor	252.157-010		

359

360

MAJOR: LANGUAGES

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELECTING LANGUAGE MATERIALS	LIBRARIAN (specializing in foreign language materials)	100.127-014	master's degree in library science	universities & colleges, public libraries, institutions
	MUSIC LIBRARIAN, INTERNATIONAL BROADCAST	100.367-026	master's degree in library science, familiarity with listening tastes of different cultural groups	radio & T.V. stations & networks
WRITING AND TRANSLATING	NEWSWRITER	131.267-014	Helpful: courses in communications or journalism	foreign-language newspapers
	FOREIGN CORRESPONDENT	131.267-018	double major with communications or journalism Helpful: experience with local paper or school publication; courses in political science, economics, sociology	newspapers & magazines, radio & T.V. networks
	EDITORIAL ASSISTANT	132.267-014	typing skill Helpful: courses in communications or journalism	publishers of foreign-language dictionaries or books for foreign circulation or by foreign authors

MAJOR: LANGUAGES

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING AND TRANSLATING	TRANSLATOR (often part-time)	137.267-018	writing skill, typing Helpful: scientific or technical knowledge & vocabulary; graduate study in language; knowledge of more than two languages; skill in computer programming for use in machine translating	govt; United Nations; other international organizations; import & export companies; publishers; travel agencies, translating services; research institutions; graduate schools of universities; foreign representatives in the U.S. (diplomatic, commercial, scientific); news media; translation agencies; freelance
SPEAKING AND INTERPRETING	INTERPRETER escort interpreter (often part-time)	137.267-010	articulate, good hearing, fluency in two or more languages, availability to travel	govt, international organizations, or freelance--here or abroad
	PASSENGER SERVICE REPRESENTATIVE (assisting foreign-speaking passengers)	359.677-022	________	airlines
	ANNOUNCER	159.147-010	double major with communications	radio & T.V. stations & networks having foreign-language programs, govt (Voice of America)
	GUIDE, TRAVEL	353.167-010	________	travel services (including organizations for student travel)

MAJOR: LANGUAGES

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DEALING WITH PEOPLE	ADMINISTRATIVE ASSISTANT personnel administrative trainee	169.167-010	Helpful: courses in business or personnel administration, economics	organizations with non-English speaking employees
	EMPLOYMENT INTERVIEWER	166.267-010	Helpful: courses in business, public, or personnel administration; economics	industrial, commercial, service, or govt establishments
	EQUAL-OPPORTUNITY REPRESENTATIVE	168.167-014		govt
	affirmative-action officer or coordinator			large firms & institutions
	MANAGEMENT TRAINEE	189.167-018	Helpful: business or leadership experiences For Advancement: master's degree in business administration	hotels, airlines, importers, exporters, large commercial banks, radio & T.V. stations & networks, large department stores, companies having non-English speaking customers, companies having foreign offices, foreign companies having offices in the U.S
	FOREIGN-SERVICE OFFICER	188.117-106	master's degree in political science, international relations, foreign service, or economics	Federal govt

MAJOR: LANGUAGES

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DEALING WITH PEOPLE	PUBLIC RELATIONS REPRESENTATIVE	165-067-010	courses in public relations, journalism, communications, or in a field related to the firm's business	multinational corporations, public relations consulting firms, transportation or insurance companies, trade & professional assocs, service organizations, govt
	BUYER, ASSISTANT foreign buyer trainee	162.157-022	availability to travel 4 or 5 months a year Helpful: courses in merchandising or marketing	chain department stores
	URBAN PLANNER land planner community or regional planner	199.167-014	Preferred: one-year master's degree in community planning Helpful: courses in architecture, administration	local govts
	MANAGEMENT AIDE relocation worker	195.367-014	________________	housing agencies
	CASEWORKER social worker	195.107-010	degree in social work	govt, social service organizations
SELLING	SALES REPRESENTATIVE, TRAVELERS' CHECKS	251.257-018	________________	financial institutions
	SALES REPRESENTATIVE, ADVERTISING	254.357-014	________________	foreign language newspapers

MAJOR: LANGUAGES

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, HOTEL SERVICES (soliciting business of foreign organizations)	259.157-014		hotels, resort areas
	SALES REPRESENTATIVE, RADIO AND TELEVISION TIME	259.357-018		radio & T.V. stations & networks with foreign language programs
	WHOLESALER IMPORTER EXPORTER	185.157-018	Helpful: business courses	importing or exporting firms

Note: A second language is an asset on many of the jobs listed under "Any Major."

MORE INFORMATION

The American Dietetic Association of Language Specialists, 1000 Connecticut Avenue, N.W., Suite 9, Washington, D.C. 20036.

American Council on the Teaching of Foreign Languages, 6 Executive Boulevard, Yonkers, New York 10701.

The American Philological Association, Fordham University, Department of Classics, Bronx, New York 10458-5154. Ask for *Careers For Classicists*. Fee.

American Society of Travel Agents, 1101 King Street, Alexandria, Virginia 22314.

American Translators Association, 109 Croton Avenue, Ossining, New York 10562.

California Occupational Guides, State of California Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030: *Translator and Interpreter*, Guide No. 408.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Opportunities for Foreign Language Majors*.

Exploring Careers Using Foreign Languages, by E.W. Edwards. The Rosen Publishing Group, Inc., New York, New York, 1986.

Foreign Languages and Your Career, a free leaflet available from the U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C. 20212.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask for tape no. 839, *Foreign Languages and Literatures*.

Joint National Committee for Languages, 20 F Street, N.W., 4th Floor, Washington, D.C. 20001.

Languages Services Division, U.S. Department of State, Washington, D.C. 20520.

Linguistic Society of America, 1325 18 Street, N.W., Suite 211, Washington, D,C, 20036.

Modern Language Association of America, 10 Astor Place, New York, New York 10003-6981. Ask for *Foreign Languages and Careers*, 2nd edition, by Lucille J. Honig and Richard I. Brod. Fee.

Occupational Outlook Handbook Reprints:

	Reprint No.
Communications, Design, Performing Arts, and Related Occupations	2300-9
Sales Occupations	2300-11

Available from the Superintendent of Documents, GPO, Washington, D.C. 20402, or read the same material in the *Occupational Outlook Handbook* at your library.

U.S. Department of State, Bureau of Personnel, Recruitment Division, P.O. Box 9317, Rosslyn Station, Arlington, Virginia 22209. Ask for *Foreign Service Careers*, Booklet No. 9202, 1986.

MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

Mathematics is the science of numbers, measurements, shapes, and probabilities. Numbers, symbols, and formulas provide a universal language, understandable to mathematicians around the world. Mathematicians use this language to state information in the simplest possible form so that they can solve problems logically.

The electronic computer has changed mathematics by taking over time-consuming tasks of calculation and providing solutions in seconds to problems that once would have taken months. It has had widespread impact on other fields, making possible completely automated factories and providing new methods for dealing with information, including libraries without books.

Statistics is a branch of mathematics that makes predictions based on data from carefully selected samples. By analyzing previous causes and effects in weather conditions, epidemics, voting patterns, or business trends, it is possible to forecast what can be expected in the future. Statistics has applications in population studies of public-health agencies, market analyses of advertisers, actuarial studies of insurance companies, and the sampling techniques used in quality control.

Mathematical modeling or simulation is also used in forecasting. For example, to test the operational characteristics of a new plane design and predict whether or not it will fly, it is possible to program a computer with a complex system of flight formulas, then feed into the computer data about the plane design to be tested. The computer gives faster, less expensive answers than those obtained from scale models or field tests. Mathematical modeling is part of almost any type of graduate research, from engineering to history, and is being used in studies to predict concentrations of pollutants in groundwater, the output of the entire economic system, and the risks of nuclear power. Complex webs of interlocking equations that need to be solved simultaneously describe interrelationships in the water supply, the economy, the political system, or the human body.

Students interested in using mathematical modeling, discovering new methods for solving problems, or teaching in a university should plan on obtaining an advanced degree.

A major in mathematics is an excellent background for graduate study in business administration (including operations research) or for graduate research in any of the sciences--physical, biological, or social. Mathematics is a large part of the coursework in both physics and economics, and a double major with either of these subjects is recommended.

Since mathematicians need to be knowledgeable in the areas in which their skills are used, students interested in applied mathematics are advised to supplement their mathematics, statistics, and computer science with such courses as engineering, public health, finance, electronics, meteorology, astronomy, or geology, for familiarity with some of the fields in which they might work.

MARKETABLE SKILLS

MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE MAJORS

- Solving complex problems by means of advanced mathematics, logic, and scientific thinking
- Understanding and expressing ideas and relationships in both numbers and words
- Using and interpreting scientific tables, charts, and graphs
- Breaking problems down into their elements and devising symbols to represent them; translating into mathematical formulations or computer codes
- Translating mathematical formulations and the results of electronic data processing into generally understood language
- Developing systems for processing data in business, industry, or research; planning logical steps for problem solving by computer
- Using computers and related equipment to process large amounts of information and solve problems rapidly
- Making sensible estimates by using mathematical techniques of estimation and approximation
- Analyzing masses of information in order to identify trends and forecast profit or loss
- Analyzing situations to determine the risk involved in various actions--anything from lending money to depleting the ozone layer of the upper atmosphere
- Advising researchers on program design; for example, in the selection and size of samples
- Rapidly grasping the significance of information in reports, making judgments as to which data are relevant
- Achieving a high level of accuracy
- Using imagination in devising original solutions to problems

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING AND FORECASTING	MATHEMATICAL TECHNICIAN	020.162-010		industrial firms, research labs
	FLIGHT TEST DATA TRANSCRIBER	002.281-010		aircraft & aerospace mfrs
	STATISTICIAN, APPLIED DEMOGRAPHER biometrician biostatistician STATISTICIAN, ENGINEERING AND PHYSICAL SCIENCE public health statistician or analyst food product statistician (Studies demand for foods in various populations & areas.)	020.167-026	Helpful: courses in engineering, science, agriculture, public health, economics, home economics, sociology, or other specializations (minor in applied field) For Advancement: graduate degree in statistics or in applied field (such as operations research)	health & govt agencies, agricultural experiment stations, engineering firms, research labs, universities, medical schools, drug companies, mfrs, finance & insurance companies
	MARKET RESEARCH ANALYST pollster public opinion surveyor	050.067-014	Helpful: courses in economics, political science, business administration, marketing, psychology	mfg companies, independent advertising agencies, research organizations, universities, govt agencies—mostly in large cities
	FINANCIAL ANALYST portfolio analyst security analyst	020.167-014	courses in economics & finance; sponsorship & training by brokerage firm, followed by exam for certification	banks, insurance companies, brokerage & investment houses

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING AND FORECASTING	BUDGET ANALYST	161.267-030	courses in accounting, economics	govt agencies
	MANAGEMENT ANALYST systems analyst	161.167-010	master's degree in business administration	private business & industries, consulting firms
	CREDIT ANALYST	191.267-014	courses in economics, business administration	financial institutions, department stores, mfrs
	LOAN OFFICER	186.267-018	courses in business administration, finance	banks, insurance & credit-card companies, department stores
	UNDERWRITER	169.167-058	For Advancement: pass Corporate Life Underwriter (CLU) exam	insurance companies--life & casualty
	QUALITY-CONTROL TECHNICIAN	012.261-014	For Advancement: degree in engineering	processing & mfg firms
	ACCOUNTANT, COST	160.167-018	Certified Public Accountant (CPA) degree	accounting firms, private companies--all types, govt agencies
	ACCOUNTANT junior accountant	160.167-010	courses in accounting, economics For Advancement: pass exam for Certified Public Accountant; master's degree in business administration	accounting firms, private companies--all types, govt agencies

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING AND FORECASTING	AUDITOR, INTERNAL junior internal auditor	160.167-034	understanding of accounting principles Helpful: a specific course in internal auditing	large corporations, govt agencies
	TRAFFIC TECHNICIAN	199.267-030	________	govt
	RECORDS-MANAGEMENT ANALYST	161.267-022	courses in business administration	business services, dealers in office equipment
	CRYPTANALYST secret-code expert	199.267-014	________	govt
	ENVIRONMENTAL ANALYST	029.081-010	courses in physics, chemistry, or engineering	govt agencies; industries with problems in pollution control, such as utilities, mines
	RADIATION MONITOR	199.167-010	courses in physics	industries, power companies, research labs, govt (at radiation-waste disposal sites)
	METEOROLOGIST	025.062-010	courses in physics, chemistry, geography; 1-year graduate study in meteorology	govt agencies (including environmental protection), consulting firms, airlines, designers of meteorological instruments, utilities, engineering & aerospace firms, radio & T.V. broadcasters, insurance companies

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING AND FORECASTING	WEATHER OBSERVER meteorological technician	025.267-014		govt agencies
	SEISMOLOGIST	024.061-050	graduate study in physics, geology, geophysics	govt, universities, oil & mining companies
	HANDICAPPER, HARNESS RACING	219.267-010	knowledge of horses	printers of racing forms
	BOOKMAKER bookie	187.167-014	Helpful: courses in business administration, accounting	horse racing, sports
	RESEARCH ASSOCIATE	109.067-014	master's degree as a minimum; usually completion of academic requirements for Ph.D.	colleges & universities, commercial enterprises, govt
	RESEARCH ASSISTANT	199.267-034		colleges & universities

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ESTIMATING AND APPRAISING	ESTIMATOR	160.267-018	courses in accounting; knowledge of employer's products or services	construction companies, mfrs, utilities, service companies
	APPRAISER	191.287-010	knowledge of a field such as aeronautics, real estate, forestry, or business machines	mfrs; real estate, oil, & logging companies; insurance firms; lending agencies; courts; lawyers
	APPRAISER, AIRCRAFT	188.167-010		
	APPRAISER, BOATS AND MARINE			
	APPRAISER, REAL ESTATE			
	APPRAISER, OIL AND WATER			
	APPRAISER, TIMBER			
	PURCHASE-PRICE ANALYST	162.167-030	accounting & economics courses; knowledge of mfg process	mfrs
DESIGNING SYSTEMS	PROGRAMMER, PROCESS CONTROL (Designs computer programs for automation of production.)	020.187-014	knowledge of machines & processes involved in an industry	industries--especially auto, aircraft, home appliances, containers
	INFORMATION SCIENTIST (Designs systems to provide data from computer storage.)	109.067-010	master's degree in information, computer, or library science Helpful: a specialized field of knowledge, such as engineering, physics, business, medicine, education	information services, libraries, universities, museums, research organizations, large business & industrial firms
	SOFTWARE TECHNICIAN	020.262-010	______	software mfrs

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING SYSTEMS	SYSTEMS ANALYST, ELECTRONIC DATA PROCESSING (Designs systems for processing data & prepares instructions for programmers.)	012.167-066	Helpful: wide programming experience; courses in marketing research, banking, accounting, engineering, economics, or meteorology	computer services, banks, engineering firms, research organizations, firms & agencies using electronic data processing
	ACCOUNTANT, SYSTEMS ACCOUNTANT, MACHINE PROCESSING (Designs accounting systems.)	160.167-026	accounting courses, ability to inspire confidence, State certification as CPA)	firms requiring individualized or computerized accounting systems
	ACTUARY actuarial trainee (Designs insurance, annuity, & pension plans.)	020.167-010	Helpful: courses in finance & business administration, political science, economics, sociology; advanced degree in statistics or actuarial science; business experience; writing skill; pass two or more actuarial exams while still in school For Advancement: pass additional actuarial exams	insurance companies, govt agencies
	ENGINEERING ANALYST applied mathematician	020.067-010	advanced degree in mathematics	engineering firms
	QUALITY-CONTROL ENGINEER (Plans system for maintaining quality standards.)	012.167-054	engineering degree related to technology of product being evaluated	processing & mfg companies

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DESIGNING SYSTEMS	URBAN PLANNER city, community, or regional planner (Plans utilization of resources.)	199.167-014	Preferred: 1-year master's degree in community planning Helpful: courses in political science, sociology, architecture, business or public administration	regional planning organizations, consulting firms, public housing authorities & other govt agencies
	SAFETY INSPECTOR	168.167-078	Helpful: courses in engineering, public relations	insurance companies
	OPERATIONS-RESEARCH ANALYST	020.067-018	graduate study in operations research or industrial engineering Helpful: courses in engineering, physical sciences, quantitative economics	large corporations, govt agencies (public-health, urban-planning, educational, criminal-justice, meteorological & ecological systems)
TRANSLATING INTO COMPUTER CODE	PROGRAMMER, ENGINEERING AND SCIENTIFIC	020.167-022	courses in engineering or physical sciences	engineering & industrial firms, research organizations, universities
	PROGRAMMER, BUSINESS	020.162-014	availability to work evening hours & more than 5 days a week	banks, businesses, industries, govt agencies
	PROGRAMMER, INFORMATION SYSTEM	020.187-010	Helpful: courses in physical sciences, engineering, health sciences, languages, or law For Avancement: master's degree in library, computer, or information science	libraries, museums, universities, computerized information services

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TRANSLATING INTO COMPUTER CODE	CUSTOMER-SUPPORT SPECIALIST	020.224-010	______	computer sales & service firms; computer consulting firm
	TECHNICAL SUPPORT ANALYST	199.224-010	______	computer-systems vendors
	PROGRAMMER, DETAIL	219.367-026	______	industrial concerns
TEACHING	TEACHER, SECONDARY SCHOOL junior high or high school teacher	091.227-010	certification with State dept of education; master's degree--in some States, after specified period of time	public & private high schools & junior high schools
	TEACHER, JUNIOR COLLEGE	090.227-010	master's degree in mathematics, statistics, computer science, physics, economics, or accounting	community colleges
	INSTRUCTOR, BUSINESS EDUCATION	090.222-010	______	business schools, community colleges, training programs
	TEACHER, ADULT EDUCATION (teacher of courses on "how to use your minicomputer," shop math, business math, laws of chance)	099.227-030	______	evening schools, community centers

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MEASURING AND POSITIONING	GEODESIST	024.061-014	courses in geophysics, physics, geology	govt, colleges, universities
	HYDROGRAPHER	025.264-010	For Advancement: engineering degree	govt, water companies
	GEODETIC COMPUTER topographic computer	018.167-014	________	govt, construction companies, engineering & architectural consultants, public utilities, mining & oil companies, surveying services, map publishers
	SURVEYOR, GEODETIC	018.167-038	________	
	SURVEYOR, MARINE	018.167-046	________	
	SURVEYOR, MINE	018.167-050	________	
	LAND SURVEYOR	018.167-018	State license or registration	
	AIRLINE PILOT, COMMERCIAL	196.263-014	ability to act quickly under stress; meet age & physical requirements; courses in physics, aeronautical engineering; flight training with multi-engine jet aircraft; pass written exams on aeronautical knowledge; demonstrate ability to pilot aircraft; Federal Aviation Administration (FAA) license	airlines
	NAVIGATOR	196.167-014	pass written exams for license from FAA	airlines

MAJOR: MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, COMPUTERS AND EDP SYSTEMS	275.257-010	40 or more weeks of paid training--offered by most computer mfrs	computer mfrs
	SALES REPRESENTATIVE, DATA PROCESSING SERVICES	251.157-014		data-processing-services
	SALES REPRESENTATIVE, WEATHER-FORECASTING SERVICE	259.357-030		private weather-forecasting services
	SALES AGENT, FINANCIAL-REPORT SERVICE	251.357-014		publishers of financial reports & credit-rating books, computerized information services
	SALES AGENT, SECURITIES	251.157-010	training under sponsorship of stock brokerage firm, followed by exam for State license Helpful: courses in economics, finance	stock brokerage firms

MORE INFORMATION

Air Line Pilots Association, International 1625 Massachusetts Avenue, N.W., Washington, D.C. 20036. Ask for *Air Line Pilot Career Information*.

American Federation of Information Processing Societies, 1899 Preston White Drive, Reston, Virginia 22091. Ask for *Facts on Computer Careers*.

American Society of Civil Engineers (ASCE), 345 E. 47 Street, New York, New York 10017-2398. Ask for *Is Civil Engineering For You*? Contact ASCE Student Services Department for names and addresses of all schools offering accredited civil engineering programs.

American Society for Information Science, 1424 16 Street, Suite 404, N.W., Washington, D.C. 20036. Ask for *Super Careers in Information Science*.

American Society of Mechanical Engineers (ASME), Order Department, 22 Law Drive, Box 2300, Fairfield, New Jersey 07007. Ask for *Mechanical Engineering--A Career for the Future*. Fee.

Association for Computing Machinery, 11 W. 42 Street, Floor 3, New York, New York 10036.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030.

	Guide No.
Actuary	318
Mathematician	66
Statistician	300

Casualty Actuarial Society, One Penn Plaza, 250 West 34 Street, Floor 51, New York, New York 10119. Ask for *The Actuarial Profession*.

Committee of Presidents of Statistical Societies, c/o American Statistical Association, 1429 Duke Street, Alexandria, Virginia 22314. Ask For *Careers in Statistics*.

Data Processing Management Association, 505 Busse Highway, Park Ridge, Illinois 60068.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Mathematics and Economics Majors*.

Eastman Kodak Company, Personnel Resources, 343 State Street, Rochester, New York 14650-1139, Attention: Mr. Jack Murtz. Booklets available (single copies):

Career Decisions: The Art of Matchmaking
Excelling in Imaging and Beyond
The Future is Yours
Government Systems Division - Research and Engineering
Health and Environment Laboratories
More Than Meets The Eye

Graduate School of Library and Information Sciences, University of Pittsburgh, 513 LIS Building, Pittsburgh, Pennsylvania 15260. Ask for *Information Science*.

The Institute of Internal Auditors, 249 Maitland Avenue, Altamonte Springs, Florida 32701. Ask for *Your Future in the Field of Internal Auditing*.

Institute of Electrical and Electronics Engineers (IEEE), 345 East 47 Street, New York, New York 10017. Ask for *Careers In the Electrical, Electronics, and Computer Engineering Fields*.

INTAC tape series, Northern Illinois University. Phone (815) 753-0414 and ask to hear one of the following tape numbers:

836	*Computer Sciences*
844	*Mathematical Sciences*
823	*Engineering Technology*

Jets, Inc., 1420 King Street, Suite 405, Alexandria, Virginia 22314-2715. Ask for *Mechanical Engineering*.

Military Operations Research Society, 101 S. Whiting Street, Suite 202, Alexandria, Virginia 22304. Ask for information on training and career opportunities.

National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091. Ask for *Mathematics Teaching as a Career*.

National Society of Professional Engineers, 2029 K Street, N.W., Washington, D.C. 20036. Ask for *Engineering: A Career of Dedication and Responsibility*.

Occupational Outlook Handbook Reprint:
Computer and Mathematics Related Occupations - No. 2300-4. Available from the Superintendent of Documents, GPO, Washington, D.C. 20402 or read the same material in the *Occupational Outlook Handbook* at your library.

Operations Research Society of America, Mount Royal and Guilford Avenues, Baltimore, Maryland 21202. Ask for *Careers in OR*.

The Society of Actuaries, 500 Park Boulevard, Itasca, Illinois 60143. Ask for *The Actuarial Profession* and *So You're Good at Math*.

PHILOSOPHY

Philosophy is the study of the environment of ideas in which we live. Philosophers seek explanations for difficult concepts, such as life and death, truth, reality, beauty, and freedom. They examine settled opinions and search for alternatives.

Different schools of thought in economics, history, psychology, and education are based on differences in philosophy. Political and religious beliefs and codes of ethics are largely determined by our basic philosophical assumptions, of which we are often unaware. Given the same data, we reach different conclusions--on issues such as civil disobedience, abortion, and conscription. Philosophy majors examine and question basic assumptions, how they originate, how they determine beliefs and behavior, and how they change.

Philosophy helps students examine their own beliefs, resolve conflicts, find a purpose or direction to life, develop a basis for ethical decisions, a defensible position on major issues, and a consistent personal philosophy. Undergraduate philosophy courses are meant to be preparation for life rather than a specific type of work. However, ability to think clearly, analyze, write, present arguments rationally, and understand different points of view are assets on the job or off. Employers in business, industry, and government, when measuring writing skills, place "a great deal of importance on the ability of a college graduate to organize ideas and to state and defend a position in writing," according to John D. Shingleton and L. Patrick Scheetz. Ph.D., of the Michigan State University Placement Services.

The study of philosophy requires a broad general education. Language--because it shapes our thinking--is indispensable. Mathematics is helpful because it contributes to logical thinking. An understanding of the social and natural sciences is needed because new discoveries in genetics, astronomy, atomic physics, psychology, sociobiology, and anthropology alter our concepts of humanity and the universe.

If a student plans further education, majoring in philosophy is an excellent background for a career in law, teaching, diplomacy, public service, publishing, journalism, the ministry, the social or natural sciences, mathematics, business, or the arts. To increase employment prospects, it is recommended that the philosophy major seek part-time or summer job experiences while still a student and select an occupationally related minor. Texas A & M University recommends "Career Opportunity Minors" in computer science, finance, management, marketing, and technical writing.

MARKETABLE SKILLS

PHILOSOPHY MAJORS

- Seeing issues from more than one point of view
- Taking differences of viewpoint into consideration when dealing with people
- Applying a broad general knowledge to the solution of problems
- Synthesizing discoveries and data from diverse disciplines, such as biology and economics.
- Using libraries and primary resources to find answers to questions
- Digesting and summarizing large amounts of complex prose
- Persevering through difficult intellectual pursuits
- Listening carefully and critically, observing small details and differences in meaning
- Recognizing errors in logic
- Thinking independently, making up own mind, reaching conclusions
- Presenting ideas in an orderly manner, precisely and coherently--both orally and in writing
- Reshaping ideas in the light of new circumstances
- Helping people establish ethical principles, priorities, or goals in keeping with their beliefs
- Asking creative questions to stimulate discussion
- Finding new and interesting approaches to old topics
- Reducing sophisticated language to to comprehensible terms
- Using figures of speech to illuminate abstract concepts
- Sensing ideas whose time has come; judging the receptiveness of audiences
- Using different types of argument and proof to influence the behavior of others

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING	MARKET-RESEARCH ANALYST pollster public opinion surveyor	050.067-014	Helpful: courses in marketing, statistics, economics, computer science, psychology For Advancement: master's degree in business administration	market-research depts of large companies, research firms, independent advertising agencies, govt, universities
	MANAGEMENT ANALYST systems analyst	161.167-010	master's degree in business administration	private businesses & industries, consulting firms
	READER story analyst	131.087-014	Helpful: courses in communications	motion picture, radio & T.V. companies; book & magazine publishers
	LOAN COUNSELOR collection analyst	186.267-014		financial institutions
	READERS' ADVISORY SERVICE LIBRARIAN	100.127-014	master's degree in library science	libraries
	PARALEGAL ASSISTANT	119.267-026		law firms
	GRANT COORDINATOR	169.117-014		community agencies, institutions, units of State & local govt

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING	BUYER, ASSISTANT	162.157-022	availability to travel 4 or 5 months a year Helpful: courses in merchandising or marketing	chain department stores
	EMPLOYMENT INTERVIEWER	166.267-010	Helpful: courses in personnel administration, industrial & labor relations, economics, sociology, industrial psychology	industrial, commercial, service, or govt establishments
	CLAIMS ADJUDICATOR	169.267-010		govt
	FINANCIAL-AID COUNSELOR (Provides information, evaluates eligibility.)	169.267-018	Helpful: social science courses, familiarity with data processing For Advancement: master's degree in student personnel work	colleges, universities
	CONTACT REPRESENTATIVE (Provides information on govt programs, evaluates applications.)	169.167-018		govt
	UNDERWRITER (Evaluates applications for insurance.)	169.167-058		insurance companies, mainly home offices
	ELIGIBILITY WORKER	195.267-010		depts of public assistance, local welfare offices

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COUNSELING	BUDGET CONSULTANT CREDIT COUNSELOR	160.207-010	courses in accounting (Check on need for State license.) Helpful: courses in economics, home economics, finance, psychology	financial institutions
	COUNSELOR--employment, school guidance, vocational, college-career planning & placement	045.107-010	master's degree in counseling, guidance, education, or business--usually; teaching experience--frequently for school counseling	employment agencies, schools, colleges, halfway houses, depts of corrections, social service & mental-health agencies in inner city & rural areas
COMMUNICATING	WRITER, PROSE, FICTION AND NONFICTION staff or freelance writer	131.067-046	typing skill Helpful: a portfolio of writing samples, courses in communications, experience on school publications	magazine & book publishers
	NEWSWRITER rewriter	131.267-014	typing skill Helpful: courses in communications or journalism	newspapers; radio & T.V. stations & networks
	WRITER, TECHNICAL PUBLICATIONS technical writer	131.267-026	typing skill Helpful: technical experience or a minor in one of the sciences	large mfg firms, research labs, govt, publishing houses, business & trade publications, professional journals--or freelance

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING	EDITORIAL ASSISTANT	132.267-014	typing skill Helpful: courses in communications, journalism	magazines, newspapers, book publishers
	ANNOUNCER	159.147-010	pleasant voice Helpful: campus radio experience, courses in communications, speech, drama, social sciences, electronics	radio & T.V. broadcasting stations
PERSUADING	LAWYER	110.107-010	graduation from law school, passing of written exam (Check on State requirements.)	law or business firms, citizens' organizations, govt--or independent practice
	CLERGY MEMBER	120.007-010	graduate training (Check with religious leaders of own faith or denomination.) Helpful: courses in psychology, sociology, administration, speech, music, fine arts, foreign languages	congregations or parishes, institutions having chaplains, schools

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERSUADING	LOBBYIST legislative advocate	165.017-010	Helpful: some area of expertise, such as energy conservation; experience working for a political candidate or a citizens' organization; courses in political science, economics, sociology, communications For Advancement: degree in law	organizations, corporations, govt
	PUBLIC RELATIONS REPRESENTATIVE	165.067-010	enthusiastic manner; fresh ideas; course in public relations, journalism, or communications Helpful: portfolio of published articles or tapes of programs	organizations, corporations, govt
	SALES/SERVICE PROMOTER	165.167-010	______	businesses, industries
	EMPLOYEE RELATIONS SPECIALIST	166.267-042	courses in labor relations & human resources management	commercial and industrial firms, govt
	HUMAN RESOURCE ADVISOR	166.267-046	graduate degree in human resources management or labor relations	human resources consulting firms

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERSUADING	SALES REPRESENTATIVE, PUBLICATIONS	277.357-022	____________	wholesale book & magazine distributors
	FUND RAISER I	293.157-010	demonstrable ability to bring in contributions or memberships	public service organizations
	JOB DEVELOPMENT SPECIALIST	166.267-034	____________	govt agencies, chambers of commerce
COORDINATING ACTIVITIES, RESOLVING DISPUTES	EQUAL OPPORTUNITY REPRESENTATIVE	168.167-014	____________	govt
	affirmative action officer or coordinator		____________	large firms & institutions
	MANAGEMENT TRAINEE	189.167-018	Helpful: business or leadership experiences For Advancement: master's degree in business administration	banks, businesses, industries, govt
	ADMINISTRATIVE ASSISTANT trainee in labor relations	169.167-010	business courses in personnel administration, graduate study in industrial or labor relations For Advancement: law degree	business, industries, govt

MAJOR: PHILOSOPHY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COORDINATING ACTIVITIES, RESOLVING DISPUTES	RECRUITER	166.267-026	Helpful: personnel management & public relations courses; a few years in military service	military services
	PERSONNEL RECRUITER	166.267-038	courses in personnel management	most business establishments, govt
	EQUAL OPPORTUNITY OFFICER	168.267-114	courses in human resources management	commercial & industrial firms, govt

Note: Consider also the entry jobs suggested for your minor and for "Any Major."

MORE INFORMATION

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015.

Management Trainee	59
Public Relations Representative	276

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask for tape no. 846 *Philosophy*.

Occupational Outlook Handbook Reprints:

	Reprint No.
Business, Managerial and Legal Occupations	2300-2
Education, Social Service, and Related Occupations	2300-5
Sales Occupations	2300-11

Available from the Superintendent of Documents, GPO, Washington, D.C. 20402, (or read the same material in the *Occupational Outlook Handbook*, at your library.)

Philosophy Major In Demand by Elizabeth M. Fowler, an article in the New York Times D Section, March 4, 1986.

PHYSICAL EDUCATION AND RECREATION

The purpose of physical education is to provide spectator sports for an audience and physical fitness programs for all groups from athletes to preschoolers and the elderly. Young children need to throw, stretch, tiptoe, kick, run, hop, and jump--skills basic to all sports and to physical development. Older children and adults need leisure activities, such as swimming, tennis, and dancing, which provide healthful exercise and opportunities to socialize. The elderly and physically or mentally disabled particularly need play, exercise, and the joy of successful performance.

Recreation majors learn to organize and supervise a wide range of activities--sports, music, drama, crafts to supply leisure and recreational services or therapy.

Physical education majors study education methods, psychology, first aid, anatomy, and physiology and do practice teaching and athletic coaching. A minor in business administration, recreation or communications (journalism or public relations) is recommended. Recreation majors may minor in physical education, communications, or performing or visual arts.

Since openings for teachers and recreation leaders are limited, many physical education and recreation majors use their skills in related fields.

MARKETABLE SKILLS

PHYSICAL EDUCATION AND RECREATION MAJORS

- Demonstrating sports skills, showing others how it is done
- Performing with endurance, daring,and skill for the entertainment of others
- Working in a team, adapting own performance to team objectives
- Assisting young people in their physical and social growth; organizing activities
- Emphasizing the fun aspects of sports; presenting activities in a way that makes them pleasurable
- Assisting people in acquiring the skills needed to participate in sports or dancing
- Adapting tasks and instruction to fit varying abilities
- Communicating the values of hygiene, nutrition, physical well-being, fair play, and self-discipline
- Helping people build self-confidence through success

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERFORMING	PROFESSIONAL ATHLETE	153.341-010	years of practice, availability to travel	professional athletic teams
	ACROBAT (mostly short-term jobs)	159.247-010	years of practice, availability to travel	performing groups, theaters, circuses
	DANCER ACROBATIC DANCER TAP DANCER ethnic dancer (mostly short-term jobs)	151.047-010	years of training in dance studio; audition; availability to travel & work irregular hours	theaters, nightclubs, T.V. studios, ships, hotels, resorts, circuses, ballet troupes, dance companies, ice skating shows
	AQUATIC PERFORMER (part-time & seasonal)	159.347-014	swimming skill, on-the-job training	water ballet shows
TEACHING AND COACHING	INSTRUCTOR, PHYSICAL EDUCATION assistant school coach (usually combined with teaching)	099.224-010	teacher's certificate; master's degree--for community colleges--(Check on State requirements.)	public & private schools
	INSTRUCTOR, DANCING INSTRUCTOR, BALLROOM DANCING TEACHER, BALLET teacher, modern dance	151.027-014	ability to demonstrate dance techniques, knowledge of dance notation & music, ability to choreograph & direct student performances (Check on State requirements.)	public & private schools, dance studios, acting schools, community centers, dance companies
	INSTRUCTOR, PHYSICAL (Teaches calisthenics, yoga, use of exercise equipment.)	153.227-014	____________	gymnasiums, private health clubs, reducing or physical-fitness clubs

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING AND COACHING	INSTRUCTOR, SPORTS ski instructor tennis "pro" teacher, scuba diving	153.237-018	experience as athlete or coach	recreational facilities, golf clubs, swimming pools, schools, country clubs, summer camps, or self-employment
	COACH, PROFESSIONAL ATHLETES assistant coach	153.227-010	organizational ability; experience as college coach or professional player Helpful: courses in public relations, statistics (to analyze weaknesses of opposing teams or strengths of prospective players)	professional teams
	TEACHER, ADVENTURE EDUCATION	099.224-014	____	adventure camps
RECRUITING	SCOUT, PROFESSIONAL SPORTS (Assists coach by attending games & reporting on prospective players.)	153.117-018	experience as college coach or professional player	professional teams, sports recruiting organizations, or freelance (serving college teams & sports publications)
TRAINING	ATHLETIC TRAINER (Assists coach by designing conditioning program, selecting safety equipment, giving first-aid treatment for injuries.)	153.224-010	special course in athletic training or in physical therapy; certification following on-the-job training	college & professional teams

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
HELPING PEOPLE	CORRECTIVE THERAPIST (Treats patients with medically prescribed exercises & activities to improve coordination or prevent loss of muscle tone.)	076.361-010	teaching certificate; 2-month supervised clinical work experience or 1-year graduate program in corrective therapy (includes clinical experience); exam for certification	Veterans Administration, hospitals, physical disability treatment & training centers, nursing homes, schools
	DANCE THERAPIST	076.127-018	master's degree in dance therapy	psychiatric hospitals, mental-retardation centers, physical-disability treatment & training institutions, adult daycare centers, nursing homes, special education programs, mental health centers
	RECREATIONAL THERAPIST (Uses sports, dramatics, arts, crafts, & social activities in medically approved program.)	076.124-014	degree in therapeutic recreation with 2 months clinical experience in facility affiliated with college or university	
	PHYSICAL INTEGRATION PRACTITIONER	076.264-010	______	hospitals

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ORGANIZING RECREATIONAL ACTIVITIES	GUIDE, ALPINE	353.164-010	camping & mountaineering experience, knowledge of wilderness-survival techniques Helpful: knowledge of local geological features, birds, animals, & plants	mountaineering clubs, private tour& excursion companies, universities, museums of natural history, environmental & wilderness organizations
	wilderness guide	________		
	white-water guide (Rows or pilots boat or raft, negotiates rapids, instructs in safety procedures, helps set up camp & prepare meals, leads side trips on foot, gives first aid, hikes out for help in case of emergency, carries supplies & boat around falls that cannot be negotiated, answers questions about features of terrain. Entertains by playing musical instrument, telling stories, or leading sing-along			
	GUIDE, HUNTING AND FISHING	353.161-010	knowledge of local terrain, knowledge of hunting & fishing laws	hunting & fishing clubs or freelance
	DUDE WRANGLER	353.364-010	experience in camping & in riding & caring for horses	dude ranches
	GROUP WORKER	195.164-010	________	housing projects, youth centers, community centers, recreation depts of govt or voluntary agencies, YM-YWCA's & YM-YWHA's, hospitals, halfway houses, resorts
	RECREATION LEADER	195.227-014	________	

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ORGANIZING RECREATIONAL ACTIVITIES	cruise director (Organizes entertainment & recreational activities for passengers aboard ship.)	———	Helpful: courses in performing arts, communications	cruise lines
	RECREATION SUPERVISOR	187.137-010	Helpful: courses in business or public administration, communications	municipal recreation depts, voluntary agencies, community centers
	PROGRAM DIRECTOR, GROUP WORK	187.117-046	Helpful: courses in business or public administration, communications, political science	scouting organizations, State & area agencies on aging, community centers, parks
	DIRECTOR, RECREATION CENTER	195.167-026	———	recreation centers, playgrounds, day camps, institutions for children or aged, hospitals, penal institutions
MANAGING ATHLETES	MANAGER, ATHLETE MANAGER, BOXER MANAGER, WRESTLER	153.117-014	on-the-job training	professional athletic clubs
MANAGING RECREATIONAL FACILITIES	MANAGER, RECREATION ESTABLISHMENT	187.117.042	courses in business administration	recreational facilities
	MANAGER, DANCE FLOOR MANAGER, DANCE STUDIO	187.167-086		

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
MANAGING RECREATIONAL FACILITIES	MANAGER, AQUATIC FACILITY	187.167-054	courses in business administration	recreational facilities
	MANAGER, DUDE RANCH	187.167-094		
	MANAGER,FISH-AND-GAME CLUB	187.167-102		
	MANAGER, GOLF CLUB	187.167-114		
	MANAGER, HOTEL RECREATIONAL FACILITIES	187.167-122		
	MANAGER, SKATING RINK	187.167-146		
	MANAGER, WINTER SPORTS	187.167-166		
	MANAGER, BOWLING ALLEY	187.167-222		
	MANAGER, MARINA DRY DOCK	187.167-226		
	MANAGER, RECREATION FACILITY	187.167.230		
	MANAGER, POOL	153.137-010	Helpful: courses in business administration	municipal recreation depts, amusement parks, voluntary agencies, community centers
TENDING RECREATIONAL FACILITIES	RECREATION-FACILITY ATTENDANT	341.367-010	______	recreational facilities
	TENNIS-COURT ATTENDANT			

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERPRETING SPORTS EVENTS	SPORTS ANNOUNCER	159.147-010	experience with local or campus broadcasting station; ability to ad lib; pass taped audition (Check on need for union membership. At small stations, check on need for Federal Communications Commission (FCC) third-class license to operate radio-transmitting equipment.) Helpful: courses in communications, speech	broadcasting stations & networks
	WRITER, PROSE, FICTION AND NONFICTION sportswriter	131.067-046	work samples Helpful: experience on school publications; courses in journalism, photography	newspaper, sports & general interest magazines
	PHOTOJOURNALIST sports photographer	143.062-034	physical stamina, samples of work Helpful: courses in visual arts, photography, communications, physics, chemistry	newspapers, sports & general interest magazines, news magazines, international wire services, T.V. broadcasters
	SPORTS CARTOONIST	141.061-010	portfolio of work Helpful: courses in visual art (drawing & design)	newspapers, sports & general interest magazines, or freelance

MAJOR: PHYSICAL EDUCATION AND RECREATION

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
OFFICIATING	UMPIRE referee (usually part-time)	153.267-018	experience as volunteer referee or umpire at school or community center; 1-2 years on-the-job experience followed by test on particular sport & membership in association for that sport Helpful: summer attendance at special umpire or referee school	athletic leagues, college athletic conferences
PROMOTING	PUBLIC RELATIONS REPRESENTATIVE sports information director sports publicist press agent	165.067-010	courses in communications (public relations, journalism, radio/T.V.); enthusiastic manner; fresh ideas; availability to travel; samples of work	athletic teams & organizations, public relations consulting firms
SELLING	SALESPERSON, SPORTING GOODS	277.357-058	______________	department & sports equipment stores
	SALES REPRESENTATIVE, RECREATION AND SPORTING GOODS	277.357-026	______________	mfrs of athletic, recreational, & playground equipment
	SALES REPRESENTATIVE, DANCING INSTRUCTIONS	259.357-014	______________	dance studios
	SALES REPRESENTATIVE, BOATS AND MARINE SUPPLIES	273.357-018	______________	mfrs & dealers in marine & water-sports equipment

MORE INFORMATION

American Association for Leisure, 1900 Association Drive, Reston, Virginia 22091. Ask for *Careers in Physical Education and Sport* (and enclose a stamped self-addressed envelope).

American Kinesiotherapy Association, c/o David Ser, 259-08 148 Road, Rosedale, New York 11422. Ask for *Corrective Therapy on the Move*.

California *Occupational Guides*, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030.

	Guide No.
Recreation Leader	357
Recreation Supervisor	357
Recreation Therapist (Recreator)	357

National Athletic Trainers Association, 1001 E. 4 Street, P.O. Box 1865, Greenville, North Carolina 27858. Ask for a list of universities having educational programs that lead to professional certification in athletic training and for *Athletic Training Careers Placement*.

National Recreation and Park Association, 3101 Park Center Drive, Floor 12, Alexandria, Virginia 22302. Ask for *Careers in Parks, Recreation, and Leisure Services* and *The Therapeutic Recreator* (listing schools offering courses in recreational therapy).

Opportunities in Sports and Athletics by William Ray Heitzmann, VGM Career Horizons, Illinois, 1980.

PHYSICS

Physics is the science of phenomena: heat, light, sound, gravity, electricity, waves, tides, windstorms, volcanoes, freezing, melting, energy in all its forms, matter in all its states, and matter changing to energy. Physicists date fossils and archeological finds by using techniques that measure the radioactive decay of atoms. They measure sizes of subatomic particles and distances between stars and speculate on the origin and destiny of the universe.

Since the discoveries of physics are expressed in mathematical terms, advanced mathematics is an essential part of the coursework, which includes also chemistry, engineering science, and computer science.

Physics has practical applications in predicting floods and earthquakes, developing energy sources, conserving water and soil, designing pollution sensors, controlling smog, positioning communications satellites, and developing body-scanning systems for use in medicine. Physics is needed for understanding human physiology: electrical impulses in the body, leverage of muscles, systolic and diastolic pressures of the heart, the nature of the five senses, the effect of gravity--or the lack of it--on the human body. An understanding of the principles of physics is basic to all other natural sciences; and a physics major may transfer--either at the undergraduate or graduate level--to a major in engineering, mathematics, chemistry, geology, or one of the biological sciences or specialize in an aspect of physics, such as astrophysics, geophysics, or biophysics.

A student who wants to be a physicist needs to plan on graduate study. A doctoral degree is required for doing research and for teaching in a college or university. Students interested in physics but not planning on a doctorate often choose a major in engineering for coursework directed more specifically toward a career. Engineers use the principles of physics to design equipment and solve practical problems. Some engineering schools offer 5- or 6- year cooperative work-study programs, allowing students to alternate study with related jobs that pay part of tuition costs while supplying on-the-job experience.

Physics graduates who do not study engineering or go on to graduate school find employment in industry (in computer, engineering-related, or quality-control jobs) or in high school teaching; or, because of their mathematical skills, may be employed by banks or insurance companies.

MARKETABLE SKILLS

PHYSICS MAJORS

- Using logic, scientific thinking, and knowledge of natural laws to solve problems in industry, agriculture, mining, medicine, or space exploration
- Understanding and expressing complex scientific and technical information in words, in mathematical formulas, or in diagrams and charts
- Conducting experiments to obtain new information about natural phenomena
- Gathering and interpreting data about movements of the earth or stars
- Setting up, calibrating, and operating complex scientific instruments
- Designing systems for processing research data by computer
- Predicting and interpreting physical phenomena, such as weather and tides
- Using knowledge of the properties of matter to select raw materials for the manufacture of products
- Using knowledge of the properties of materials to develop new industrial processes or techniques
- Designing instruments to obtain information about the universe in space, the depths of the ocean, the melted core of the earth, or the inside of the human body

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING PRODUCT QUALITY	ELECTRONICS INSPECTOR	726.381-010		mfrs of electronic equipment
	QUALITY -CONTROL TECHNICIAN	012.261-014	For Advancement: engineering degree	processing & mfg firms
	TEST TECHNICIAN	019.161-014		engineering consulting firms, mfrs of electronic equipment for control or testing
	CALIBRATION LABORATORY TECHNICIAN	019.281-010		electronic instrument mfrs, aircraft-aerospace equipment mfrs
	ELECTRONICS TESTER	726.281-014		mfrs of electronic equipment
	TESTER	011.361-010		sheet-metal fabricators
	RADIOGRAPHER	199.361-010		mfrs of construction materials (such as pipes)
	SPECTROSCOPIST	011.281-014		mfrs of metal products, mining companies
	TESTER, MOTORS AND CONTROLS	721.281-030		mfrs of electrical equipment

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING PRODUCT QUALITY	STORAGE BATTERY INSPECTOR AND TESTER	727.381-022		mfrs of electrical equipment
	NONDESTRUCTIVE TESTER	011.261-018	courses in metallurgy	commercial testing labs, mfg firms
	LABORATORY ASSISTANT	029.361-018		utilities
	TEST-ENGINE OPERATOR	029.261-018		petroleum refineries
	TEST TECHNICIAN	019.261-022		mfrs of agricultural equipment
	BOTTLE-HOUSE QUALITY-CONTROL TECHNICIAN	029.361-010		brewery bottling house (quality-control dept)
PROTECTING HEALTH AND ENVIRONMENT	ENVIRONMENTAL ANALYST AIR POLLUTION ANALYST SOILS ANALYST noise specialist	029.081-010	courses in chemistry, meteorology, biology Helpful: courses in public administration, sociology, economics, environmental or urban studies	govt agencies, industries with pollution problems (as utilities, mines)
	AIR ANALYST	012.261-010		industries, govt

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	POLLUTION-CONTROL TECHNICIAN environmental health technician ENGINE EMISSION TECHNICIAN	029.261-014		govt agencies (for transportation, health, or environmental protection); industries that have pollution problems; private consulting firms; environmental & conservation organizations
	INDUSTRIAL HYGIENIST	079.161-010	courses in chemistry, biochemistry, biology Helpful: pass exam for certification by American Board of Industrial Hygiene For Advancement: master's degree in public health or industrial hygiene	govt agencies, industries
	SANITARIAN environmental hygienist environmental health specialist	079.117-018	courses in microbiology, chemistry, biochemistry Helpful: specialized courses in environmental health or graduate degree in public health	govt health agencies
	HYDROLOGIST	024.061-034	Helpful: courses in geology, forestry, meteorology, oceanography, biology	govt agencies; industrial research or consulting firms
	HYDROGRAPHER	025.264-010		

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	HEALTH PHYSICIST	079.021-010	courses in nuclear physics & chemistry, knowledge of radiation-protection methods & radiation-control laws Helpful: advanced degree in nuclear physics or 1-year fellowship with the Atomic Engergy Commission (Check on need for health-physics certification & security clearance.)	govt agencies, hospitals, universities, research organizations
	RADIOLOGIC TECHNOLOGIST	078.362-026	completion of specialized program including clinical experience & accreditation by the American Medical Association's Committee on Allied Health Education & Accreditation	hospitals, health facilities
	NUCLEAR MEDICAL TECHNOLOGIST	078.361-018	specialized professional training & clinical experience	hospitals
	PROSTHETIST	078.261-022	4-8 months post-graduate training in prosthetics combined with 1 year of clinical practice; pass certification exam	prosthetic services
	RADIATION-PROTECTION SPECIALIST	168.261-010	______	govt

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROTECTING HEALTH AND ENVIRONMENT	OPTOMETRIST	079.101-018	courses in chemistry, biology, physiology, anatomy, psychology; 4-year graduate degree from optometry school	optometry practices
PROTECTING LEGAL RIGHTS	CRIMINALIST crime laboratory analyst	029.281-010	courses in chemistry, biochemistry, biological sciences, electronics; knowledge of mechanics & firearms; 1-year on-the-job training Preferred: lab experience or master's degree	local, county, & State police labs; the Federal Bureau of Investigation in Washington D.C.
	patent examiner	______	______	U.S. Patent Office, Department of Commerce, Washington, D.C.
	LAWYER, PATENT patent attorney	110.117-026	degree in law	law offices or self-employment
MEASURING	GEODESIST	024.061-014	courses in geophysics, geology	govt, colleges, universities
	PHOTOGRAMMETRIST	018.261-026	______	govt
PROSPECTING	GEOPHYSICAL PROSPECTOR	024.061-026	courses in geophysics geology, or engineering	oil & mining companies
	OBSERVER, SEISMIC PROSPECTING	010.161-018	______	oil & mining companies

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING AND ASSISTING IN RESEARCH	METEOROLOGIST	025.062-010	1-year master's degree in meteorology	govt agencies (weather & environmental protection), consulting firms, airlines, designers of meteorological instruments, utilities, engineering & aerospace firms, radio & T.V. broadcasters, insurance companies
	SEISMOLOGIST	024.061-050	graduate courses in geophysics, geology	govt agencies, universities, oil & mining companies
	GEOLOGIST	024.061-018	minor or graduate study in geology For Advancement: graduate degree in geology; willingness to travel to Texas, California, Louisiana, Colorado, or Oklahoma, where most of the jobs are	petroleum or mining & quarrying companies, construction & consulting firms, govt agencies, colleges & universities, museums, & research organizations
	MATERIALS SCIENTIST	029.081-014	advanced degree in physics, chemistry, geology, metallurgy, or engineering	industrial or research organizations, govt agencies
	FIBER TECHNOLOGIST	040.061-026	courses in botany, biochemistry	textile companies

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING AND ASSISTING IN RESEARCH	ASTRONOMER (radio or optical) specializing in planetary, stellar, interstellar, or galactic astronomy	021.067-010	courses in chemistry, geology, meteorology; Ph.D. degree in astronomy	colleges, universities, university-affiliated observatories (operated by universities or consortiums of universities), planetariums, science museums, astronomy magazines, industries doing contract work for space program (few openings)
	ELECTRONICS TECHNICIAN ENGINEERING-DEVELOPMENT TECHNICIAN	003.161-014		mfrs of electronic, computer, communications, & aerospace equipment; govt
	PHOTO-OPTICS TECHNICIAN	029.280-010		mfrs of communications or data-collection equipment, govt
	LASER TECHNICIAN	019.181-010		mfrs of scientific instruments & communications equipment
	PROGRAMMER, ENGINEERING AND SCIENTIFIC	020.167-022		engineering firms, research labs
	PROGRAMMER, PROCESS CONTROL (Designs computer programs for automation of production.)	020.187-014	knowledge of machines & processes involved in an industry	industries--especially auto, aircraft, home appliances, containers

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING AND ASSISTING IN RESEARCH	SYSTEMS ANALYST, ELECTRONIC DATA PROCESSING	012..167-066	Helpful: extensive programing experience	firms & agencies using data processing
	RESEARCH ASSISTANT	199.267-034	________________	colleges & universities
TEACHING AND COMMUNICATING	TEACHER, SECONDARY SCHOOL high school physics, mathematics, astronomy, meteorology, or computer science teacher	091.227-010	certification with State department of education; master's degree--in some States after specified period of time	public & private high schools & junior high schools
	PLANETARIUM TECHNICIAN	962.261-010	courses in electronics & astronomy	planetariums
	LASERIST	159.042-010	knowledge of music	planetariums, discotheques
	WRITER, TECHNICAL PUBLICATIONS technical writer PROCESS-DESCRIPTION WRITER	131.267-026	________________	publishers of manuals & instruction books, research institutes, professional & trade journals, magazines, broadcast media, freelance
	ILLUSTRATOR, MEDICAL AND SCIENTIFIC	141.061-026	portfolio; courses in photography, art (for medical work); a master's degree in medical illustrating	publishers, of scientific journals & books, universities, medical schools, pharmaceutical firms, research organizations, museums

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING AND COMMUNICATING	TECHNICAL ILLUSTRATOR engineering illustrator	017.281-034	portfolio of work	publishers of reference works, brochures, technical manuals dealing with industrial techniques
	PHOTOGRAPHER, SCIENTIFIC (specializing in metallurgy, astronomy, aerodynamics, ballistics, engineering, or medicine)	143.062-026	portfolio of work	research organizations, publishers of scientific journals or books, museums
SELLING	college representative; "college traveler" (Visits universities, colleges, junior colleges, & firms with training programs; sells books to instructors & administrators; acts as talent scout for prospective professor-authors, locates new acquisitions.)	———	———	publishers of college textbooks
	ELECTRONIC SALES AND SERVICE TECHNICIAN	828.251-010	———	suppliers of electronics equipment
	SALES REPRESENTATIVE, WEATHER FORECASTING SERVICE	259.357-030	———	private weather services
	SALES REPRESENTATIVE, ULTRASONIC EQUIPMENT	271.352-014	———	wholesale distributors of electronic devices

MAJOR: PHYSICS

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	SALES REPRESENTATIVE, COMMUNICATION EQUIPMENT	271.257-010	________	wholesale distributors of communication equipment
	SALES REPRESENTATIVE, COMPUTERS AND EDP SYSTEMS	275.257-010	________	wholesale distributors of electronic data processing equipment
	SALES REPRESENTATIVE, ARCHITECTURAL AND ENGINEERING SUPPLIES	275.357-010	________	wholesale distributors of engineering supplies
	SALES REPRESENTATIVE, PRECISION INSTRUMENTS	276.357-014	________	wholesale distributors of precision instruments

MORE INFORMATION

Accreditation Board For Engineering and Technology, 345 East 47 Street, New York, New York 10017.

Acoustical Society of America, 500 Sunnyside Boulevard, Woodbury, New York 11797. Ask for *Acoustics and You*.

The American Astronomical Society, 2000 Florida Avenue, N.W. #300, Washington, D.C. 20009. Ask for *Understanding the Universe: A Career In Astronomy*.

American Geophysical Union, 2000 Florida Avenue, N.W., Washington, D.C. 20009. Ask for *Geophysics: The Earth in Space*.

American Institute of Physics, 335 East 45 Street, New York, New York 10017. Ask for:

Careers in Physics
Understanding the Universe: A Career in Astronomy
Acoustics and You

American Meteorological Society, 45 Beacon Street, Boston, Massachusetts 02108. Ask for the *Challenge of Meteorology: Career Opportunities* and a list of colleges and universities.

American Optometric Association, 243 North Lindbergh Boulevard, St. Louis, Missouri 63141. Ask for *Information for Applicants to Schools and Colleges of Optometry*.

American Society of Civil Engineers (ASCE), 345 E. 47 Street, New York, New York 10017-2398. Ask for *Is Civil Engineering For You?* Contact ASCE Student Services Department for names and addresses of all schools offering accredited civil engineering programs.

The American Society of Mechanical Engineers (ASME), 345 East 47 Street, New York, New York 10017. Booklets available (single copies).

Mechanical Engineering: A Career For the Future. Fee.
What Is a Mechanical Engineer?
Mechanical Engineering Technology.

The American Society of Radiologic Technologists, 15000 Central Avenue, S.E., Albuquerque, New Mexico 87123. Ask for *Careers in X-ray Technology*.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Meteorologist	200
Physicist	62
Radiologic Technologist	89

Colorado State University College of Engineering, Fort Collins, Colorado 80523. Ask for *Engineering Your Future.*

Council for the Advancement of Science Writing, 4 Billingham Street, Somerville, Massachusetts 02144, or National Association of Science Writers, P.O. Box 294, Greenlawn, New York 11740. Ask for *A Guide to Careers in Science Writing.*

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Physical Science Majors.*

Eastman Kodak Company, Personnel Resources, 343 State Street, Rochester, New York 14650-1139. Attention: Mr. Jack Murtz. Booklets available (single copies):

Career Decisions: The Art of Matchmaking
Excelling In Imaging and Beyond
The Future Is Yours
Government Systems Division - Research and Engineering
Health and Environment Laboratories
More Than Meets the Eye

Institute of Electrical and Electronics Engineers (IEEE), 345 East 47 Street, New York, New York 10017. Ask for *Careers In the Electrical, Electronics, and Computer Engineering Fields.*

Jets, Inc., 1420 King Street, Suite 405, Alexandria, Virginia 22314-2715. Ask for *Mechanical Engineering.*

Laser Institute of America, 5151 Monroe Street, Suite 102W, Toledo, Ohio 43623. Ask for *Careers and Educational Programs in Lasers and Electro-Optics.*

National Oceanic and Atmospheric Administration, 1401 Constitution Avenue, N.W., Washington, D.C. 20230.

National Society of Professional Engineers, 2029 K Street, N.W., Washington D.C. 20036. Ask for *Engineering: A Career of Dedication and Responsibility.*

The Society of Exploration Geophysicists, P.O. Box 702740, Tulsa, Oklahoma 74170. Ask for *Careers in Exploration Geophysics.*

The Society of Nuclear Medicine, 136 Madison Avenue, 8th floor, New York, New York 10016.

Soil and Water Conservation Society, 7515 N.E. Ankeny Road, Ankeny, Iowa 50021 (publishers of *Conservation Careers).*

U.S. Civil Service Commission, Washington, D.C. 20415. Ask for *Engineering, Physical and Mathematical Sciences and Related Professions: Opportunities in the Federal Government,* Announcement No. 424, published annually.

U.S. Department of Commerce, Employment Information Center, Room 1050L, Washington, D.C. 20230. Ask for *Career Gateways*: U.S. Department of Commerce.

U.S. Department of Energy, 1000 Independence Avenue, Washington, D.C. 20585. Ask for *Professional Energy Careers.*

U.S. Environmental Protection Agency, National Workforce Development Staff, 401 M Street, S.W. Washington, D.C. 20460. Ask for *Career Opportunities in the Environmental Protection Agency.*

POLITICAL SCIENCE

Government

Political science is the study of political power, who has it, how it is developed and used, and how it can be controlled to protect individual rights. Political science describes and explains such phenomena as the rise and fall of governments, political parties, mass movements, social conflicts, revolutions, and ideologies. Political scientists analyze the mechanisms of organizing, influencing, and governing--at local, State, national, and international levels.

Coursework may include economics, history, sociology, philosophy, public speaking, mathematics, accounting, administration, and foreign languages. For research, the social sciences rely increasingly on statistical methods, and a knowledge of computer procedures is needed to process quantitative data. Practical experience is also needed, and it is recommended that the political science major attend a school offering an internship in government, publishing or broadcasting or join a private or public interest group, or a law firm.

Political scientists may specialize in consumer affairs, environmental protection, statistical analysis, foreign policy, or interrelationships between government and business. An advanced degree is usually required.

Political science is an excellent background for graduate study in public or business administration, law, or journalism. Understanding the political environment we live in is helpful in other fields. Being able to explain the workings of government is a useful skill for employees in education, business, or government.

Politically active students who want to bring about change, run for office, or have an input into decision making can make themselves more effective through the political science major. Since much of political action is volunteer work, it is recommended that undergraduate students increase their employment prospects by choosing a double major, combining political science with economics or accounting, as examples.

MARKETABLE SKILLS

POLITICAL SCIENCE MAJORS

- Interpreting public policy to the public, explaining the mechanics of government and intergovernmental relations
- Directing individuals to government agencies that can assist them
- Using insight into the overall political environment to promote public causes
- Organizing or participating in community action, collecting funds to support the action
- Analyzing bureaucratic budgets, policy-making processes, congressional behavior, pressure-group activities, international relations, or local power struggles
- Dealing effectively with individuals or groups to obtain information, using surveys and interview techniques for research
- Using mathematical methods--simulation, statistics, electronic data processing--to deal with data
- Writing clear and concise reports
- Predicting the impact specific political changes will have on the quality of life
- Supplying historical perspective with information on past experiences in dealing with issues, such as minority relations, foreign policy, environmental protection, or urban development
- Recommending measures, such as resource allocation, long-range economic planning, or the organization of a community to deal with social problems
- Advising businesses on how to deal with bureaucratic systems

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	MARKET-RESEARCH ANALYST pollster public opinion surveyor	050.067-014	Helpful: courses in economics, marketing	mfg companies, independent advertising agencies, research organizations, universities, govt
	SURVEY WORKER	205.367-054		
	MANAGEMENT ANALYST	161.167-010	master's degree in business administration	private businesses & industries, consulting firms
	PARALEGAL ASSISTANT	119.267-026		law firms
	ABSTRACTOR	119.267-010		govt, insurance companies
	CITY PLANNING AIDE	199.364-010	For Advancement: master's degree in community planning or in public administration	local govt
	URBAN PLANNER city, community, or regional planner	199.167-014	Preferred: 1 year master's degree in community planning Helpful: courses in architecture, sociology, administration	regional planning organizations, consulting firms, public housing authorities, & other govt agencies
	RESEARCH ASSISTANT	199.267-034		colleges & universities
	LEGISLATIVE ASSISTANT	169.167-066		legislative offices

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	LABOR RELATIONS CONSULTANT INDUSTRIAL RELATIONS REPRESENTATIVE	166.167-034	master's degree in industrial or labor relations Helpful: courses in personnel management, business or public administration, labor economics, industrial psychology, sociology For Advancement: law degree	firms offering labor relations advice to either labor or management, govt agencies
DEALING WITH DATA	ARCHIVIST, POLITICAL HISTORY	101.167-010	1-year graduate study in political history	universities, colleges, special libraries
	RECORDS MANAGEMENT ANALYST	161.267-022	courses in information or computer science	businesses
	STATISTICIAN, APPLIED	020.167-026	________	govt, research organizations
TEACHING	TEACHER, SECONDARY SCHOOL social science high school teacher	091.227-010	certification with State dept of education; master's degree--in some States--after specified period of time Helpful; ability to teach in more than one subject area, willingness to relocate where the jobs are	public & private high schools
	TEACHER, ADULT EDUCATION citizenship teacher	099.227-030	________	schools, community organizations

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERPRETING PUBLIC POLICY	CONTACT REPRESENTATIVE (Provides information on govt programs involving benefits or obligations.)	169.167-018		govt
	CLAIMS ADJUDICATOR	169.267-010		govt
	ELIGIBILITY WORKER	195.267-010		depts of public assistance, local welfare offices
	CASE AIDE	195.367-010	For Advancement: master's degree in social work	social-service agencies
	MANAGEMENT AIDE	195.367-014		housing agencies
	PAROLE OFFICER PROBATION OFFICER	195.167-030 195.167-034	driver's license--sometimes For Advancement: degree in social work	State parole boards, county probation offices
	CASEWORKER (Resolves problems or complaints of constituents.)	169.262-010	master's degree in social work	govt
	SOCIAL-SERVICE AIDE	195.367-034	For Advancement: master's degree in social work	social-service agencies
	POLICE OFFICER	375.263-014	meet physical & age requirements	govt

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
COMMUNICATING	WRITER, PROSE, FICTION AND NONFICTION (writing about politics, public affairs, mass movements)	131.067-046	Helpful: portfolio of writing samples, experience on school publications	magazines, book publishers, freelance (limited field)
	EDITORIAL ASSISTANT	132.267-014	typing skill Helpful: courses in communications, journalism	magazine, newspaper, or book publishers
	NEWSWRITER rewriter	131.267-014	typing skill Helpful: courses in communications, journalism	newspapers; radio & T.V. stations & networks
	ANNOUNCER	159.147-010	pass audition, pleasant voice Helpful: campus radio experience, courses in communications, speech, drama, social sciences, electronics	radio & T.V. broadcasting stations
	FOREIGN CORRESPONDENT	131.267-018	courses in languages, journalism Helpful: experience with local paper or school publications; courses in economics, sociology	newspapers & magazines, radio & T.V. networks

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PERSUADING, INFLUENCING	PUBLIC RELATIONS REPRESENTATIVE public information officer	165.067-010	enthusiastic manner; fresh ideas; courses in public relations, journalism, communications, or in a field related to the firm's business Helpful: portfolio of published articles or tapes of programs	mostly large corporations, public relations consulting firms, mfrs public utilities, transportation or insurance companies, trade & professional assocs, educational institutions, health- & human-service organizations, govt
	FUND RAISER	293.157-010	demonstrable ability to bring in contributions or memberships	political & community action organizations
	REPORTER (with possibility of eventual promotion to columnist, commentator, news analyst, or editorial writer)	131.267-018	facility in writing, skill in typing Preferred: degree in journalism or communications Helpful: experience on school paper or broadcasting station; courses in business, economics, sociology, photography, foreign languages, speech	newspapers, periodicals, broadcasting companies--most beginning jobs with small companies
	LOBBYIST legislative advocate	165.017-010	Helpful: some area of expertise, such as environmental protection; experience working for a political candidate or a citizens' organization, courses in economics, sociology, communications For Advancement: degree in law	corporations, public-interest organizations

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	TRAVEL AGENT	252.157-010	fluency in languages, travel experiences Helpful: work experience with airlines, courses in psychology, geography	travel agencies, hotel reservation agencies, auto-rental firms
	WHOLESALER IMPORTER EXPORTER	185.157-018	Helpful: business courses, knowledge of foreign languages, geography	importing or exporting firms
ORGANIZING, COORDINATING	EQUAL OPPORTUNITY REPRESENTATIVE	168.167-014	Helpful: experience in programs designed to improve economic & educational opportunities	govt
	affirmative action officer or coordinator	______		large firms & institutions
	ADMINISTRATIVE ASSISTANT personnel administrative trainee labor relations trainee	169.167-010	For Advancement: graduate degree in personnel administration business courses in personnel administration, graduate study in industrial or labor relations For Advancement: law degree	business, industrial, philanthropic, labor, or govt organizations
	PROGRAM DIRECTOR, GROUP WORK program specialist (Organizes an agency's activities.)	187.117-046	Helpful: courses in business or public administration, recreation, social work, communications, sociology	scouting organizations, State & area agencies on aging, community centers

MAJOR: POLITICAL SCIENCE

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ORGANIZING, COORDINATING	FOREIGN SERVICE OFFICER DIPLOMATIC OFFICER CONSULAR OFFICER	188.117-106	foreign language fluency; master's degree in political science, international relations, foreign service, or economics	Federal govt
	MANAGEMENT TRAINEE	189.167-018	Helpful: business or leadership experiences For Advancement: master's degree in business administration	large commercial banks, import-export firms, other businesses & industries
	COMMUNITY ORGANIZATION WORKER (Organizes community & coordinates resources.)	195.167-010	degree in social work--usually	public or volunteer coordinating agencies for community welfare, health, social services, or urban renewal
	COMMUNITY RELATIONS AND SERVICES ADVISOR, PUBLIC HOUSING (Establishes constructive relationships among tenants, between tenants & housing management, & with the community.)	195.167-014	degree in social work--usually	low-income public housing developments

Note: See additional suggestions under "Any Major."

MORE INFORMATION

American Planning Association (APA), 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Ask for the list, *Colleges and Universities Offering Planning and Related Degree Programs*.

American Political Science Association, 1527 New Hampshire Avenue, N.W., Washington, D.C. 20036. Ask for *Careers and the Study of Political Science: A Guide for Undergraduates*.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Management Trainee	59
Planner, Urban	175
Probation Officer and Parole Agent	192
Public Relations Representative	276

Careers in the Nonprofit Sector: Doing Well by Doing Good by Terry W. McAdam, The Taft Group, Washington, D.C., 1986.

Common Cause, 2030 M Street, N.W., Washington, D.C. 20036. Ask for a list of public-interest organizations.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Areas for Political Science and History Majors*.

Good Works: A Guide to Careers in Social Change. Edited by Joan Anzalone. Dembner Books, New York, New York, 1985. Note: New edition to be published in 1991.

Profiles of organizations involved in consumer advocacy, education, economic development,---. States purpose, current projects, publications, contacts.

INTAC tape series, Northern Illinois University. Phone (815) 753-0414 and ask for tape no. 848 *Political Science*.

Occupational Outlook Handbook Reprint:

Business, Managerial and Legal Occupations - Bulletin 2300-2. Available from the Superintendent of Documents, GPO, Washington, D.C. 20402 or read the same material in the *Occupational Outlook Handbook* in your library.

PSYCHOLOGY

Psychology is the scientific study of individual and group behavior. Majors in the subject study biology, mathematics (often calculus), statistics, sociology, and biology as part of their coursework. A student particularly interested in the physiological basis of behavior may choose a minor in biology or, at some schools, a double major in biology-psychology. Courses in testing and interviewing techniques, helpful to psychology majors, are sometimes offered in the college of education instead of in the psychology department. Psi Chi, the national honor society in psychology, recommends that students enhance employment possibilities by selecting courses in the areas of economics, business or personnel administration, marketing, consumer education, journalism or communications, English composition, and speech. Other suggestions are computer science; social work; and recreation, music, or art--particularly in the therapeutic applications.

According to the American Psychological Association, psychology is the most popular of all undergraduate courses. In the United States, a bachelor's degree in psychology is offered at more than 1,500 colleges and universities. Recipients of a baccalaureate degree in psychology are not psychologists. To be a psychologist, a student needs at least a master's and usually a doctoral degree. Competition is keen: only a fraction of those who apply for graduate programs in psychology are accepted. Many students continue their education in other fields instead, using undergraduate work in psychology as preparation for graduate study in education (including learning disabilities), counseling, political science, sociology, social work, law, recreation, occupational therapy or business--personnel work, administration, or management. Psychology is an excellent background for any of these fields.

Other students, upon receiving the bachelor's degree, seek employment and begin a career in business or social service. Knowledge and skills learned in undergraduate psychology courses apply to almost any type of work focused on people.

MARKETABLE SKILLS

PSYCHOLOGY MAJORS

- Using insight into behavior to deal effectively with people
- Promoting good relationships within a group and in the community
- Applying knowledge of human needs and problems to counseling, crisis intervention, or other social services
- Applying knowledge of childhood development to the care and education of children
- Utilizing educational methods in or out of the classroom
- Making use of interviewing techniques in investigative, reporting, social service, or marketing-research contexts
- Administering psychological tests and interpreting results
- Conducting surveys and interpreting results
- Analyzing statistical data
- Using computers and assisting in laboratory research
- Conducting library research and writing reports

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TESTING	PSYCHOMETRIST	045.067-018	courses in testing	personnel depts, schools
	POLYGRAPH EXAMINER	199.267-026	____________________	criminal-justice agencies
	TEST TECHNICIAN test administrator & scorer test-development assistant	249.367-078	____________________	schools, universities, businesses, industries, govt
INTERVIEWING	MARKET RESEARCH ANALYST pollster public-opinion surveyor	050.067-014	Helpful: undergraduate courses in economics, data processing, statistics, English composition For Advancement: master's degree in marketing	mostly in large cities: mfg companies, independent advertising agencies, market-research organizations, universities
	INTERVIEWER (of applicants for T.V. game shows) contestant interviewer	166.167-010	____________________	T.V. broadcasters
	EMPLOYMENT INTERVIEWER personnel recruiter	166.267-010	Helpful: courses in business, public or personnel administration, economics	industrial, commercial, service, or govt establishments
	PRISONER-CLASSIFICATION INTERVIEWER	166.267-022	____________________	prisons or correctional institutions
	EMPLOYER RELATIONS SPECIALIST	166.267-042	Helpful: courses in labor relations or human resources administration	commercial & industrial firms, govt

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERVIEWING	PERSONNEL RECRUITER	166.267-038	courses in personnel management, communicatios, & public relations Helpful: good communication skills	most business establishments, govt
	RECRUITER	166.267-026	Helpful: personnel management, communications, & public relations; a few years service in military	military service
COUNSELING	COUNSELOR--employment, school guidance, vocational, college career planning & placement	045.107-010	master's degree in counseling, guidance, education, or business--usually; teaching experience--frequently, for school counseling	employment agencies, schools, colleges, halfway houses, depts of corrections, social-service & mental-health agencies in inner city & rural areas
	REHABILITATION COUNSELOR	045.107-042	master's degree--for most agencies, but workstudy program often available to earn degree while working	State & local rehabilitation agencies, Veterans Administration, hospitals, rehabilitation workshops, labor unions, insurance companies, job-placement services, special schools
CARING FOR CHILDREN	TEACHER, PRESCHOOL day-care center teacher	092.227-018	Preferred: coursework in early childhood education	day-care centers

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
HELPING PEOPLE	CASEWORKER	195.107-010	degree in social work	social-service agencies, govt
	PAROLE OFFICER PROBATION OFFICER	195.167-030 195.167-034	driver's license--sometimes For Advancement: degree in social work	State parole boards, county probation offices
	GROUP WORKER PROGRAM AIDE, GROUP WORK RECREATION LEADER	195.164-010 195.227-010 195.227-014	Preferred: degree in recreation, physical education, or social work Helpful: craft or sport expertise, leadership experience	housing projects, halfway houses, community centers, recreation depts, YM-YWCA's, YM-YWHA's, institutions, resorts
	ELIGIBILITY WORKER (public assistance)	195.267-010	—	depts of public assistance, local welfare offices
	CASE AIDE	195.367-010	For Advancement: master's degree in social work	social-service agencies
	CAREER-GUIDANCE TECHNICIAN	249.367-014	For Advancement: graduate degree	schools, universities
	PSYCHIATRIC TECHNICIAN psychiatric assistant psychology technician	079.374-026	—	Federal govt, mental-health clinics, hospitals
	social work assistant	—	Helpful: languages	large hospitals

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
HELPING PEOPLE	SOCIAL SERVICES AIDE	195.367-034	____________	public social-service agencies
	PREPAROLE COUNSELING AIDE	195.367-026	Helpful: counseling courses	correctional facilities
	PROBATION AND PAROLE OFFICER	195.107-046	____________	probation & parole depts
	COMMUNITY WORKER	195.367-018	____________	social service agencies
DEALING WITH PEOPLE	PUBLIC RELATIONS REPRESENTATIVE	165.067-010	courses in public relations, journalism, communications, or in a field related to the firm's business, such as biology or finance	mostly large corporations, public relations consulting firms, public utilities, transportation or insurance companies, trade & professional assocs, museums, educational institutions, health- & human-service organizations, govt
	EQUAL OPPORTUNITY REPRESENTATIVE	168.167-014	____________	govt
	affirmative action officer or coordinator		____________	large firms & institutions
	HEALTH OFFICER, FIELD	168.167-018	____________	govt

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DEALING WITH PEOPLE	ADMINISTRATIVE ASSISTANT personnel administrative trainee	169.167-010		business, industrial, philanthropic, or govt organizations
	MANAGEMENT TRAINEE	189.167-018	Helpful: business courses, leadership experience	business or industry
	MANAGEMENT AIDE relocation worker	195.367-014		housing agencies
	POLICE OFFICER (eventual assignment to community relations or crisis intervention)	375.263-014	must meet physical & age requirements	govt
	EQUAL OPPORTUNITY OFFICER	168.267-114	human resources administration courses	commercial & industrial firms, govt
	HUMAN RESOURCES ADVISOR	166.267-046	graduate degree in human resources administration or labor relations	human resources consulting firms
	COMPLAINT EVALUATION OFFICER	375.367-014		police depts
SELLING	SALES AGENT, PSYCHOLOGICAL TESTS AND INDUSTRIAL RELATIONS	251.257-014		industrial-psychology firms, book publishers

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING DATA	STATISTICIAN, APPLIED statistical report writer	020.167-026	strong background in statistics, mathematics, & social science	mfg industries, public utilities, finance & insurance companies, govt
	PURCHASING AGENT media buyer, time-and-space buyer (Researches product & audience to select effective media.)	162.157-038	Helpful: business administration courses	sales agencies
	CITY PLANNING AIDE	199.364-010	For Advancement: master's degree in urban planning or in public administration	regional planning organizations, consulting firms, public-housing authorities & other govt agencies
ASSISTING IN RESEARCH	SCIENTIFIC HELPER	199.364-014	For Advancement: graduate degree	industries, large hospitals, primate labs
	RESEARCH ASSISTANT	199.267-034		colleges & universities
WRITING	WRITER, TECHNICAL PUBLICATIONS	131.267-026	Helpful: a portfolio of writing samples, such as articles published in local or student papers	research labs, psychological journals, book publishers, govt
	EDITOR, TECHNICAL AND SCIENTIFIC PUBLICATIONS	132.017-018		

MAJOR: PSYCHOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
TEACHING	PUBLIC HEALTH EDUCATOR	079.117-014	undergraduate courses in physiology, bacteriology, chemistry, biology, educational & social psychology, cultural anthropology, sociology Preferred: master's degree in health education	govt agencies, international health programs, community & regional planning councils, poverty projects, hospitals, clinics, industries, agricultural extension services, colleges & universities
	TEACHER, SECONDARY SCHOOL social science high school teacher	091.227-010	certification with State department of education; master's degree--in some States--after specified period of time	public & private high schools
	INSTRUCTOR, VOCATIONAL TRAINING trade or technical teacher	097.227-014	work experience, in agriculture, auto mechanics, building maintenance, cooking, electronic data processing... (For State employment, check your State civil service & State education depts for certification requirements,--possibly obtainable after employment.)	industrial plants, schools, institutions operated by State depts of correctional services, offices of mental health & mental retardation & developmental disabilities, divisions for youth, adult-education programs
	TRAINING REPRESENTATIVE trainer instructor	166.227-010	ability to speak, write, & relate to people effectively	industrial, commercial, service, or govt establishments

Note: See also listings under "Any Major."

487

488

MORE INFORMATION

American Association For Counseling and Development, 5999 Stevenson Avenue, Alexandria, Virginia 22304.

American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611. Ask for *Look Into Social Work Jobs In Health Care Settings* (describes the position of social work assistant).

American Psychological Association, 1200 7 Street, N.W., Washington, D.C, 20036. Ask for *Careers in Psychology* (free to students) plus other career materials.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Management Trainee	59
Personnel Manager	135
Probation Officer and Parole Agent	192
Psychiatric Technician	95
Psychologist	77
Public Relations Representative	276
Recreation Leader	357
Rehabilitation Counselor	430
School Counselor	429
Teacher, Preschool	275
Teacher, Secondary School	57
Teacher, Trade and Technical	404

College Placement Council, 62 Highland Avenue, Bethlehem, Pennsylvania 18017. Ask for *Career Counseling and Placement*.

Council on Social Work Education, 1744 R Street, N.W., Washington, D.C. 20009. Ask for the list, *Colleges and Universities With Accredited Undergraduate Social Work Programs*.

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Opportunities for Majors in Psychology and Sociology*.

Graduate Study in Psychology and Associated Fields. American Psychological Association, Washington, D.C., 1988.

Accredited schools listed by location. Details of degree requirements, housing, day care, financial aid.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask for tape no. 850, *Psychology*.

Is Psychology the Major For You? Edited by Paul J. Woods with Charles S. Wilkinson. American Psychological Association, Washington, D.C., 1987.

A basis for other careers and advanced study, self-evaluation, traditional and non-traditional employment.

National Association of Social Workers, Inc., 7981 Eastern Avenue, Silver Spring, Maryland 20910.

National Mental Health Association, 3722 12 Street, N.E., Washington, D.C. 20017. Ask for *The Clinical Psychologist, The Rehabilitation Counselor,* or *The Social Worker in Mental Health.*

National Rehabilitation Counseling Association, 633 S. Washington Street, Alexandria, Virginia 22314.

Occupational Outlook Handbook Reprints:

	Reprint No.
Business, Managerial and Legal Occupations	2300-2
Education, Social Service, and Related Occupations	2300-5

Available from the Superintendent of Documents, GPO, Washington, D.C. 20402, or read the same material in the *Occupational Outlook Handbook* at your library.

Personnel departments of local community service agencies (check organizations listed with United Fund), child-care centers, halfway programs, hospitals, departments of correction, and mental health agencies.

Requirements for Certification: Teachers, Counselors, Librarians, Administrators. For Elementary Schools, Secondary Schools, Junior Colleges (updated annually) by Nancy Paxton Burks. The University of Chicago Press, Chicago, Illinois.

SOCIOLOGY

Sociology is the study of how people interact, form groups, and are affected by groups. Groups studied are of any size: a family a cult, a community, or the total human society. The purpose of sociology is to find the cause of social problems and bring about change. Sociologists may concentrate on one problem area, such as poverty, aging, overpopulation, or crime. They use languages to collect information from people in different cultural groups; statistics and computer science, to analyze the information they collect. Most sociologists work for colleges or universities, teaching or doing research. For this, an advanced degree--usually a Ph.D.--is required. Openings for sociologists are affected by economic conditions, and opportunities are best for those who consider the entire country in their job search.

A practical application of sociology is social work. Social work generally requires a master's degree, although some schools are now offering a bachelor's degree in this field. Medical or psychiatric social work are possible specialties. Another specialty is industrial social work. The industrial social worker, hired by a private firm, helps employees with problems such as alcoholism, work stress, and conflicts with co-workers.

Other applications of sociology are research for use in urban renewal, surveys for use in marketing, and studies of industrial organizations and control for use in management.

Sociology can be applied wherever people gather in groups--that is almost anywhere.

MARKETABLE SKILLS

SOCIOLOGY MAJORS

- Using insight into group dynamics to deal effectively with groups and their members--including people of all economic, educational, and cultural backgrounds
- Applying knowledge of human relationships to social services, such as crisis intervention
- Counseling individuals on how to get along in a group, such as a school, family, or work team
- Designing and conducting surveys to study social attitudes; interpreting the results with the aid of statistical and computer analysis
- Analyzing patterns of organization and control in a business, industrial firm, institution, or political unit
- Finding causes of dissatisfaction or social unrest
- Resolving conflicts between groups, as in labor relations; improving relationships within a company, organization, or community
- Predicting how groups will react to new institutions or changing social pressures
- Adapting approaches used in public relations, marketing, or politics to different population groups

MAJOR: SOCIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
RESEARCHING	DEMOGRAPHER	020.167-026		govt agencies, research organizations
	MARKET-RESEARCH ANALYST pollster public opinion surveyor	050.067-014	Helpful: courses in economics, marketing	mfg companies, independent advertising agencies, market-research organizations, universities
	SOCIOLOGIST	054.067-014	master's degree in sociology Preferred: Ph.D.	universities, govt human resource agencies, private research organizations
	ANTHROPOLOGIST	055.067-010	graduate degree in anthropology	universities, museums
	MANAGEMENT ANALYST	161.167-010	master's degree in business administration	private businesses & industries, consulting firms
	RESEARCH ASSISTANT	199.267-034		colleges & universities
PLANNING	URBAN PLANNER land planner community or regional planner	199.167-014	Preferred: 1-year master's degree in community planning Helpful: courses in architecture, administration	local govts

MAJOR: SOCIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
LEADING	GROUP WORKER	195.164-010	Preferred: degree in recreation, physical education, or social work Helpful: craft or sport expertise, leadership experiences	housing projects, halfway houses, community centers, recreation depts, YM-YWCA's, YM-YWHA's, institutions, resorts
	RECREATION LEADER	195.227-014		
ORGANIZING	PUBLIC HEALTH EDUCATOR (Organizes community program for health education.)	079.117-014	undergraduate courses in physiology, bacteriology, chemistry, biology, educational & social psychology, cultural anthropology Preferred: master's degree in health education	govt agencies, international health programs, community & regional planning councils, poverty projects, hospitals, clinics, industries, agricultural extension services, colleges & universities
	PROGRAM DIRECTOR, GROUP WORK program specialist (Organizes an agency's activities.)	187.117-046	Helpful: courses in business or public administration, recreation, social work, communications, political science	scouting organizations, State & area agencies on aging, community centers
	SOCIAL GROUP WORKER (Organizes group program to develop basic social skills.)	195.107-022	degree in social work--usually	community centers, settlement houses, youth-serving organizations, institutions for children or aged, hospitals, penal institutions
	COMMUNITY ORGANIZATION WORKER (Organizes community & coordinates resources.)	195.167-010	degree in social work--usually	public or volunteer coordinating agencies for community welfare, health, social services, or urban renewal

MAJOR: SOCIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ORGANIZING	COMMUNITY RELATIONS AND SERVICES ADVISOR, PUBLIC HOUSING (Establishes constructive relationships among tenants, between tenants & housing management, & with the community.)	195.167-014	degree in social work--usually	low-income public housing developments
	DIRECTOR, RECREATION CENTER (Organizes recreation programs.)	195.167-026	Preferred: degree in social work, physical education, or recreation	recreation centers, playgrounds, day camps, institutions for children or aged, hospitals, penal institutions
ADVISING	LAWYER	110.107-010	graduation from law school, passing of written exam (Check on State requirements)	corporations, law firms, govt, citizens' organizations
HELPING PEOPLE	COUNSELOR--employment, school guidance, vocational, college career planning & placement	045.107-010	master's degree in counseling, guidance, education, or business--usually; teaching experience--frequently for school counseling	employment agencies, schools, colleges, halfway houses, depts of corrections, social service & mental health agencies in inner city & rural areas
	REHABILITATION COUNSELOR	045.107-042	master's degree-- for most agencies, but workstudy program often available to earn degree while working	State & local rehabilitation agencies, Veterans Administration, hospitals, rehabilitation workshops, labor unions, insurance companies, job-placement services, special schools

MAJOR: SOCIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
HELPING PEOPLE	CASEWORKER, FAMILY family counselor	195.107-018	degree in social work--usually	social-service agencies
	SOCIAL WORKER, DELINQUENCY PREVENTION	195.107-026	degree in social work	public agencies, community action programs
	SOCIAL WORKER, SCHOOL (Improves relationships between students, parents, school, & community.)	195.107-038	degree in social work	education systems
	PAROLE OFFICER PROBATION OFFICER	195.167-030 195.167-034	driver's license--sometimes For Advancement: degree in social work	State parole boards, county probation offices
	ELIGIBILITY WORKER (public assistance)	195.267-010	______________________	depts of public assistance, local welfare offices
	SOCIAL-SERVICES AIDE	195.367-034	______________________	social service agencies
	PRE-PAROLE COUNSELING AIDE	195.367-026	______________________	correctional facilities
	COMMUNITY WORKER	195.367-018	______________________	social service agencies
	PROBATION AND PAROLE OFFICER	195.107-046	______________________	probation & parole agencies

MAJOR: SOCIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
HELPING PEOPLE	PSYCHIATRIC TECHNICIAN	079.374-026		psychiatric hospitals & mental health clinics
	CASE AIDE	195.367-010	For Advancement: master's degree in social work	social-service agencies
	CAREER-GUIDANCE TECHNICIAN	249.367-014	For Advancement: graduate degree	schools, universities
	social work assistant		Helpful: languages	large hospitals
TEACHING	TEACHER, SECONDARY SCHOOL social-science high school teacher	091.227-010	certification with State dept. of education; master's degree--in some States--after specified period of time Helpful: ability to teach more than one subject area	public & private high schools
DEALING WITH GROUPS	PUBLIC RELATIONS REPRESENTATIVE	165.067-010	courses in public relations, journalism, communications, or in a field related to the firm's business, such as biology or finance	mostly large corporations, public relations consulting firms, mfrs, public utilities, transportation or insurance companies, trade & professional assocs, museums, educational institutions, health-& human-service organizations, govt

MAJOR: SOCIOLOGY

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
DEALING WITH GROUPS	EQUAL OPPORTUNITY REPRESENTATIVE affirmative action officer	168.167-014	Helpful: courses in human resources administration	govt, large firms or institutions
	HEALTH OFFICER, FIELD	168.167-018		govt
	ADMINISTRATIVE ASSISTANT personnel administrative trainee	169.167-010		business, industrial, philanthropic, or govt organizations
	MANAGEMENT TRAINEE	189.167-018	Helpful: business courses, leadership experiences	business or industry
	MANAGEMENT AIDE relocation worker	195.367-014		housing agencies
	POLICE OFFICER (eventual assignment to community relations or crisis intervention)	375.263-014	must meet physical & age requirements	govt
	EQUAL OPPORTUNITY REPRESENTATIVE	168.167-014	Helpful: courses in human resources administration	commercial & industrial firms, govt
	CLINICAL SOCIOLOGIST	054.107-010	master's degree in sociology & clinical training Preferred: Ph.D.	hospitals & mental health clinics

Note: Since many liberal arts majors find satisfying first jobs not directly related to their majors, see also the listing under "Any Major."

MORE INFORMATION

American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611. Ask for *Look Into Social Work Jobs in Health Care Settings*, which describes the position of social work assistant.

American Planning Association (APA), 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Ask for the list, *Colleges and Universities Offering Planning and Related Degree Programs*.

American Rehabilitation Counseling Association, 5999 Stevenson Avenue, Alexandria, Virginia 22304.

The American Sociological Association, Career and Research Division, 1722 N Street, N.W., Washington, D.C. 20036. Ask for *Careers in Sociology*; *Majoring in Sociology: Guide for Students*.

Council on Social Work Education, 1744 R Street, N.W., Washington, D.C. 20009. Ask for the list, *Colleges and Universities with Accredited Undergraduate Social Work Programs*.

California Occupational Guides, State of California, Employment Development Department, Employment Data and Research Division, Occupational Information Unit, 1525 South Broadway, Room 237, Los Angeles, California 90015-3030. Ask for any three of the following:

	Guide No.
Management Trainee	59
Social Worker	122
Personnel Manager	135
Planner, Urban	175
Probation Officer and Parole Agent	192
Public Relations Representative	276
Recreation Leader	357
Rehabilitation Counselor	430

Dickinson College Counseling Center, Carlisle, Pennsylvania 17013. Ask for *Career Opportunities for Majors in Psychology and Sociology*.

INTAC tape series, Northern Illinois University. Phone 815/753-0414 and ask for tape no. 851, *Sociology*.

National Association of Social Workers (NASW), 7981 Eastern Avenue, Silver Spring,Maryland 20910.

National Mental Health Association, 1021 Prince Street, Alexandria, Virginia 22314. Ask for *The Social Worker in Mental Health* and *The Rehabilitation Counselor*.

National Rehabilitation Counseling Association, 633 S. Washington Street, Alexandria, Virginia 22314.

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Personnel departments of local community service agencies, halfway houses, hospitals, departments of correction, and mental health agencies. (Check organizations listed with United Fund.)

Population Association of America, Inc., P.O. Box 14182, Benjamin Franklin Station, Washington, D.C. 20044. Ask for *Careers in Demography*.

Society for Public Health Education (SOPHE), 2001 Addison Street, Berkeley, California 94704. Ask for *What Is a Public Health Educator?*

ANY MAJOR

Regardless of major, a college education is usually broad enough to allow for remarkable flexibility. There are advantages in having skills diverse enough to cover, not just one specialization, but a whole constellation of possibilities.

In numerous jobs, the requirement is not any particular major but, simply, college graduation. At the start, almost all jobs involve on-the-job training. Often what employers look for is an excellent general education with ability to learn and communicate.

There are basic subjects all college students study and basic skills they must acquire in order to graduate. Regardless of major, most have experience in writing reports, using library resources, examining evidence critically, and developing original ideas. Most, through social science courses, have historical perspective, an understanding of how government works, an appreciation of our own and other cultures, and some understanding of what motivates people. Required science courses give an understanding of how technology is changing the world and provide practice in experimentation, scientific thinking, and quantifying--through mathematics, statistics, or computer science.

It is difficult to predict what occupations will be in demand 4 years from now. Seeing that ocean resources are priceless and need conservation, some experts, a few years ago, predicted a demand for oceanographers; but openings in this field continue to be scarce. A need is not enough to create a demand; funds have to be available. The labor market is constantly changing and is affected by political as well as economic conditions.

In a changing world, it is advantageous to hold a collection of marketable skills, applicable to more than one career direction.

MARKETABLE SKILLS
COLLEGE GRADUATES

(ANY MAJOR)

- Conducting a literature search to find out what work has already been done on a problem
- Reading and condensing large amounts of material; collecting, updating, and dispensing information
- Recognizing interrelationships in information obtained from diverse sources; synthesizing ideas from different disciplines
- Listening critically
- Evaluating a play, a movie, a technical report, an exhibit, a performance, or an argument
- Translating from one language to another or from technical to simpler terms
- Writing clearly, concisely, convincingly
- Speaking clearly, concisely, convincingly
- Using graphs, diagrams, maps, and charts
- Performing mathematical computations
- Conceptualizing non-observable phenomena
- Setting up and using equipment, such as scientific apparatus, computers, and audio or video recorders
- Preparing and classifying scientific specimens
- Obtaining results of controlled scientific experiments
- Observing physical phenomena, measuring, weighing, and recording accurately
- Observing events or human behavior with accuracy
- Allowing for cultural differences when dealing with people
- Using an understanding of human motivation to influence others and sell ideas
- Applying knowledge of historical experience to current problems
- Explaining and using resources available from government agencies
- Planning and scheduling; anticipating future needs
- Asking creative questions
- Finding new solutions to old problems
- Meeting deadlines
- Sticking to a difficult endeavor and seeing it through to completion (evidenced by accomplishment of successfully completing 4 years of college)

MARKETABLE SKILLS ACQUIRED OUTSIDE OF CLASSROOM

What you do outside of school is important too. Employers looking for candidates for responsible, decisionmaking jobs are interested in any activities that develop transferable skills, such as:

- Taking charge, organizing, managing
- Budgeting, managing funds
- Supervising, delegating tasks
- Teaching, explaining
- Resolving conflicts, bringing factions together
- Coping with deadline pressure
- Interviewing
- Meeting the public, answering complaints, collecting money
- Speaking publicly
- Writing (and getting it published)

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
ANALYZING	MARKET-RESEARCH ANALYST pollster public opinion surveyor	050.067-014	Helpful: courses in marketing, statistics, economics, computer science, psychology For Advancement: master's degree in business administration	market-research depts of large companies, research firms, independent advertising agencies, govt, universities
	PROGRAMMER, BUSINESS	020.162-014	programming experience or on-the-job training; availability to work evening hours & more than 5 days a week For Advancement: training in systems analysis	banks, businesses, industrial firms, govt agencies; medical, education, & data processing services
	PARALEGAL ASSISTANT	119.267-026	________________	law firms
	CLAIM EXAMINER	168.267-014	________________	insurance companies
	LOAN COUNSELOR collection analyst	186.267-014	________________	financial institutions
EVALUATING	BUYER, ASSISTANT	162.157-022	availability to travel 4 or 5 months a year Helpful: courses in merchandising or marketing	chain department stores

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING	EMPLOYMENT INTERVIEWER	166.267-010	Helpful: courses in personnel administration, industrial & labor relations, economics, sociology, industrial psychology	industrial, commercial, service, or govt establishments
	CLAIMS ADJUDICATOR	169.267-010		govt
	FINANCIAL-AID-COUNSELOR (Provides information, evaluates eligibility.)	169.267-018	Helpful: social-science courses, familiarity with data processing For Advancement: master's degree in student-personnel work	colleges, universities
	CONTACT REPRESENTATIVE (Provides information about govt programs, evaluates applications.)	169.167-018		govt
	UNDERWRITER (evaluating applications for insurance)	169.167-058	Helpful: pass underwriting exam; willingness to relocate where jobs are	insurance companies (mainly home offices)
	EMPLOYER RELATIONS REPRESENTATIVE	166.257-010		employment-security agencies
	RECRUITER	166.267-026	Helpful: courses in personnel management, communications, public relations; a few years in military	military services

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
EVALUATING	PERSONNEL RECRUITER	166.267-038	courses in personnel management, communications, public relations Helpful: good communication skills	most business establishments, govt
	PASSPORT-APPLICATION EXAMINER	169.267-030		State Department
	EXAMINER	169.267-014		govt agencies
	ELIGIBILITY WORKER	195.267-010		depts of public assistance, local welfare offices
	ELIGIBILITY-AND-OCCUPANCY INTERVIEWER	168.267-038		govt housing agencies
COUNSELING	CREDIT COUNSELOR BUDGET CONSULTANT	160.207-010	courses in accounting (Check on need for State license.) Helpful: courses in economics, home economics, finance, psychology	financial institutions

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERPRETING POLICY, ADMINSTERING	ADMINISTRATIVE ASSISTANT personnel trainee	169.167-010	Helpful: courses in business administration, psychology	businesses, industries, govt
	TRAINING REPRESENTATIVE	166.227-010		industrial, commercial, service, or govt establishments
	MANAGEMENT TRAINEE (executive training program with opportunities to learn work in different depts for 6 months- 1 year & eventual assignment to one dept-- as warehouse inventory, marketing, credit, or personnel)	189.167-018	Helpful: business or leadership experiences	banks & other financial institutions; utilities; insurance, oil, food, & cosmetic companies; chain & retail stores; mfrs; service businesses; govt; hospitals; educational institutions; nonprofit organizations
	MANAGER, CREDIT AND COLLECTION manager, accounts receivable	168.167-054	accounting skills Helpful: on-the-job training in a commercial bank; courses in finance, economics, computer programming	retail stores, banks, credit unions, mfrs, wholesalers, wherever credit is used
	MANAGER, RETAIL STORE	185.167-046	6 to 18 months on-the-job training Helpful: courses in business administration; leadership or business experiences	retail stores

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INTERPRETING POLICY, ADMINSTERING	MANAGEMENT AIDE	195.367-014		housing agencies
	entrepreneur		Helpful: business administration courses; experience as a trainee in a similar business	your own business
ENFORCING LAWS	SPECIAL AGENT, CUSTOMS criminal investigator, customs	188.167-090	availability to travel & work at all hours	govt
	SPECIAL AGENT, SECRET SERVICE	375.167-042	driver's license; pass physical exam; availability to travel & work at all hours	govt (few openings, many applicants)
	DEPUTY UNITED STATES MARSHALL	377.267-010		Department of Justice
INSPECTING AND TESTING	BUILDING INSPECTOR	168.267-010		insurance companies
	TRANSPORTATION INSPECTOR	168.167-082		railroad & bus companies
	DEALER-COMPLIANCE REPRESENTATIVE	168.267-026		retail & wholesale firms having dealerships or distributorships
	DRIVER'S LICENSE EXAMINER	168.267-034	driver's license Helpful: courses in public speaking	State govt (motor vehicle depts)

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
INSPECTING AND TESTING	FOOD AND DRUG INSPECTOR	168.267-042	courses in chemistry or biology	govt
	FOOD TESTER	029.361-014	courses in chemistry or biology	food processors, govt
	RATER, TRAVEL ACCOMMODATIONS	168.367-014	availability to travel	travel-guide publishers, travel clubs, tourism promoters
ASSISTING IN RESEARCH	LIBRARIAN	100.127-014	master's degree in library science	universities & colleges, public libraries, institutions
	CITY PLANNING AIDE	199.364-010	For Advancement: master's degree in community planning, economics, or public administration	local govt
	SCIENTIFIC HELPER research assistant	199.364-014	________________	research labs, universities
WRITING	WRITER, PROSE, FICTION AND NONFICTION staff or freelance writer	131.067-046	typing skill Helpful: a portfolio of writing samples, courses in communications, experience on school publications	magazine & book publishers

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
WRITING	NEWSWRITER rewriter	131.267-014	typing skill Helpful: courses in communications or journalism	newspapers; radio & T.V. stations & networks
	WRITER, TECHNICAL PUBLICATIONS technical writer	131.267-026	typing skill Helpful: technical experience or a minor in one of the sciences	large mfg firms, research labs, govt, publishing houses, business & trade publications, professional journals, or freelance
EDITING	EDITORIAL ASSISTANT associate editor MANUSCRIPT READER COPY READER	132.267-014	typing skill Helpful: courses in communications, journalism For Advancement: creative story ideas	book publishers (including textbooks); magazines (trade, news, professional, consumer, sport, hobby, alumni, business) company house organs; newspapers
	READER story analyst	131.087-014	typing skill Helpful: courses in communications	motion picture, radio & T.V. companies
	SCRIPT READER	131.267-022	typing skill	radio & T.V. stations
PROMOTING	GUIDE, PLANT plant tour guide	353.367-018		mfrs & utilities offering public tours
	GUIDE, REAL ESTATE	297.667-010		real estate firms

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
PROMOTING	FUND RAISER I	293.157-010	demonstrable ability to bring in contributions or memberships Helpful: courses in public relations	public service organizations
SELLING	SALES AGENT, INSURANCE	250.257-010	initiative, sales ability, on-the-job training followed by exam for state license Helpful; courses in insurance, economics, business law	insurance companies
	SALES AGENT, REAL ESTATE	250.357-018	courses in real estate & training on the job, followed by exam for State license Helpful: knowledge of the local community	real estate firms
	SALES REPRESENTATIVE, ADVERTISING	254.357-014		newspapers, magazines
	SALES REPRESENTATIVE, AUDIOVISUAL PROGRAM PRODUCTIONS	259.157-010		recording services, producers of films & taped programs
	SALES REPRESENTATIVE, PUBLICATIONS	277.357-022		publishers & distributors of books & magazines

MAJOR: ANY MAJOR

CATEGORY	POTENTIAL JOBS	DOT CODES	WHAT YOU NEED	WHERE THE JOBS ARE
SELLING	JOB DEVELOPMENT SPECIALIST	166.267-034	____________	employment-security agencies, chambers of commerce
	SALES REPRESENTATIVE, SECURITY SYSTEMS	259.257-022	____________	security-systems firms

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Potential Jobs – Charts of traditional and non-traditional jobs show you what education and experience you need to get the job and who's hiring.

More Information – Lists of other sources (articles, books, directories, and guides), with capsule descriptions, appear after each major and in the Bibliography at the back of the guidebook. There are also references for special interests – women, the disabled, and minorities.

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